Gas Journal

LIGHT - HEAT - POWER - BY-PRODUCTS

Vo. 245. 97th Year. LONDON, FEBRUARY 7, 1945. Registered as a Newspaper. No. 4264. Price 1/-

PUBLIC LIBRARY
MAR 1 19[illegible]
DETROIT

De La Rue

De La Rue GAS DEVELOPMENTS LTD.

THOMAS POTTERTON (HEATING ENGINEERS) LTD.

GAS WATER HEATING SPECIALISTS

* IMPERIAL HOUSE REGENT ST., LONDON W.1. ** CAVENDISH WORKS, BUCKHOLD RD. S.W. 18.

Pegson Power Rammers are used on active service. They are making air fields, landing grounds, storage dumps, and are used in building Royal Ordnance factories, swimming pools, on road repairs, and in many other jobs.

ON ACTIVE SERVICE ON THE HOME AND FIGHTING FRONTS

You can still buy Pegson Power Rammers if you are engaged upon work of national importance. 8 A/F

Consolidation

is achieved in more ways than one with a Pegson Power Rammer. The equipment consolidates time and costs as well as earth. It is the most convenient rammer you can use, running on Pool petrol that you can get anywhere. The Pegson Power Rammer is fitted with the Petroil system of lubrication, and ignition is achieved through a B.T.H. magneto. Pegson Power Rammers have achieved a world-wide reputation for the efficiency and reliability of their performance. Foolproof and easy to operate, Pegson Power Rammers constitute the last word in ramming equipment.

PEGSON Ltd.

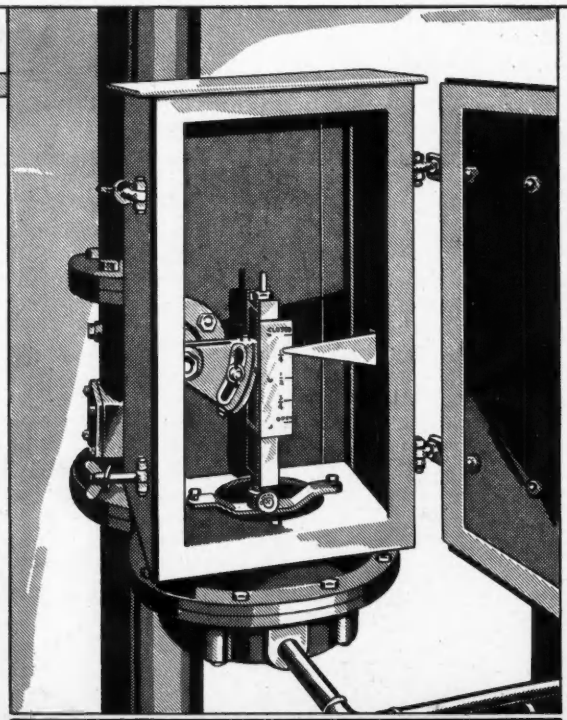
London Office:
7, Iddesleigh House, Caxton Street, Westminster, S.W.1.
'Phone: Abbey 2373. 'Grams: Melbrom, Sowest, London.
Works: Coalville, Leicestershire.

Donkin

RETORT HOUSE GOVERNOR

- Diaphragm Type with relay control.
- Foul Gas does not come in contact with Relay System.
- Suitable for any type of Retort, horizontal or vertical.
- Adaptable to existing settings.
- Running cost nil.
- Accurate control.

We have a large number of these Governors at work, all giving the greatest satisfaction—with repeat orders. These Governors have replaced other types.



The BRYAN DONKIN Co Ltd.
CHESTERFIELD

GAS JOURNAL, FEB. 7, 1945

VOL. 245 97th YEAR No. 4264

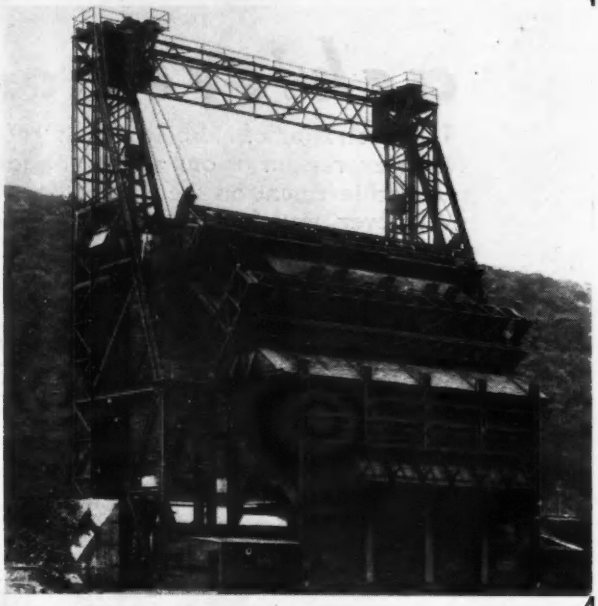
A VERY LARGE TIPPLER-HOIST

FOR
THE SOUTH AFRICAN
RAILWAYS & HARBOURS
ADMINISTRATION

CAPACITY 2,000 TONS PER HOUR
OF COAL
OR MANGANESE ORE

DESIGNED, CONSTRUCTED
& ERECTED AT DURBAN

BY STRACHAN & HENSHAW LTD.
WHO MAKE
WAGON TIPPLERS OF ALL
TYPES & SIZES FROM THE
SMALLEST TO THE WORLD'S
LARGEST



STRACHAN & HENSHAW LTD STEELHOIST WORKS
TELEPHONE · BRISTOL 77664 TELEGRAMS · STELHOIST, BRISTOL ST. PHILIPS **BRISTOL 2**

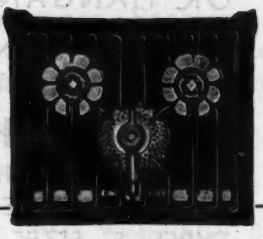
South East view of the famous Royal Hospital, Chelsea—colloquially "The Old Pensioners"—designed by Sir Christopher Wren. According to tradition it was Mistress Nell Gwynn's generous heart which prevailed on Charles to establish this permanent home for old soldiers. Reproduction from a print in the possession of
GEORGE GLOVER'S
of CHELSEA
Gas Meter Manufacturers

achievement...

The illustration of Mosquitoes in flight is included as an expression of our admiration for a remarkable achievement on the part of British Industry. Whatever may follow this 'plane, nothing can detract from its well-earned fame—of its kind and in its time the best in the World.

To use the illustration of the hotplate assembly as an example of domestic achievement may seem insignificant compared with the records of the Mosquito, but none can deny that we have produced something unique in Gas Cooker design . . . the "Duex" Grill-Boil Burner.

VISIT THE
KITCHEN PLANNING EXHIBITION
DORLAND HALL, LONDON, S.W.1
6 FEB.—3 MAR.



Rainhill STOVES LIMITED · RAINHILL · LIVERPOOL

89.28

TO ENSURE PRESSURE-TIGHT JOINTS

SPECIFY

TAPER WASK THREAD

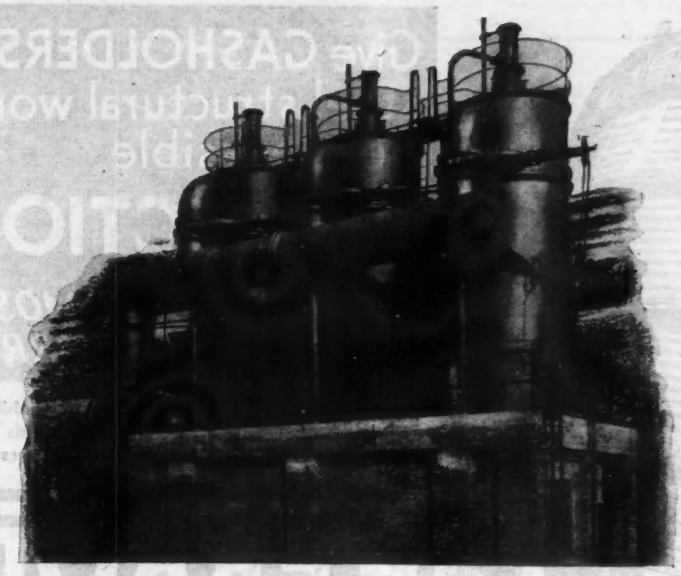
MALLEABLE IRON PIPE FITTINGS & UNIONS

Made by

WALTER SLINGSBY & CO. LTD.

WOODHOUSE WORKS, KEIGHLEY

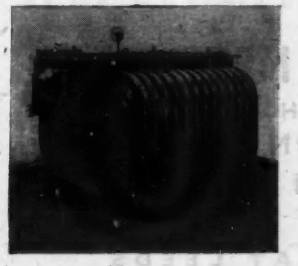
Grams: "Malleable" Keighley. Phone: Keighley 3749 (2 lines).

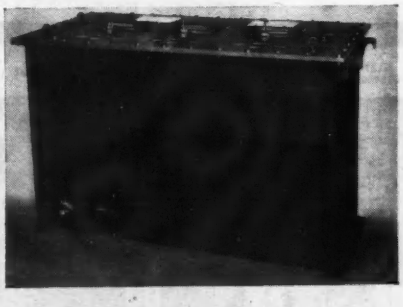


MULTI-UNIT W·W-D ELECTRO-DETARRERS

SPECIAL EQUIPMENT FOR LARGER INSTALLATIONS

FOR the larger Gasworks and Coke Oven Plants with gas makes exceeding 12 million cu. ft. per day, it is usual to install multi-unit gas treaters and electrical equipment. The Whessoe Company has recently developed an entirely new type of oil-immersed H.T. switchgear for interconnecting the gas treaters and electrical equipment, this superseding the air-break switchgear formerly employed. The top view illustrates a multi-unit gas treater installation. On the right is an illustration of the oil-immersed H.T. switchgear (patent applied for).





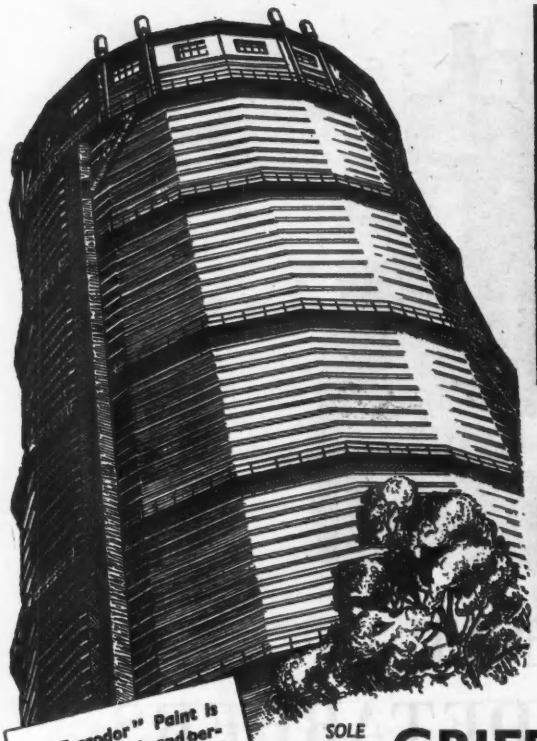
The view on the left shows the Whessoe patented "exposed" type H.T. electrical equipment which is connected to the gas treaters through the H.T. switchgear.

Write for technical information—inspection of this equipment can be arranged on request.

WHESSOE

London Office 25 Victoria St. S.W.1 Head Office DARLINGTON

THE WHESSOE FOUNDRY & ENGINEERING COMPANY LTD



Give GASHOLDERS and other steel structural work the best possible

PROTECTION from RUST *and ATMOSPHERIC CORROSION*

Owing to its exceptional rust-inhibiting properties, "Ferrodor" Metal Protection affords great economy in labour and reduces maintenance costs to the minimum

FERRODOR

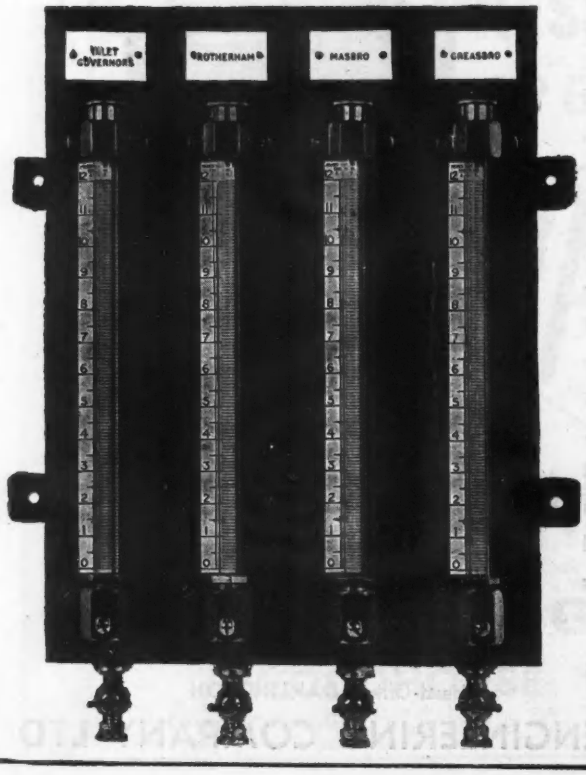
METAL PROTECTION

"Ferrodor" Paint is still available and permitted for essential maintenance work

SOLE MAKERS **GRIFFITHS BROS & Co LONDON Ltd**

PAINT ENAMEL AND INSULATING VARNISH SPECIALISTS

MACKS ROAD, BERMONDSEY, LONDON, S.E. 16 Telephone BERmondsey 1151



SINGLE TUBE GAUGES

MILNE'S METERS LTD.

MILTON HOUSE WORKS
MILTON STREET
EDINBURGH

Telegraph: 'MILNE' Telephone: 75328

ALSO AT LEEDS

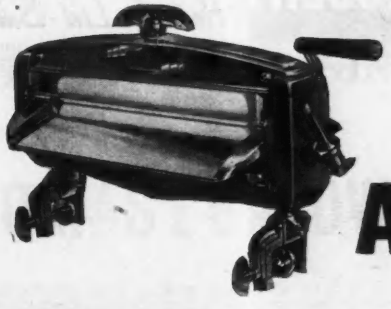
It goes without saying a washing machine fitted with an Acme is good

IT HAS BEEN PROVED by long and sound experience in the past that the Acme Cleanser-Wringer is the foremost of its kind. When a woman in pre-war days talked of a wringer, she *meant* an Acme. When in the coming days of peace she will talk of wringers she will again mean an Acme. To her in the future, as in the past, the Acme will stand as the ideal machine for work in the home laundry. So that when she sees a washing machine fitted with an Acme 55 she will say to herself—"That's a good washing machine".

Your experience tallies with that of the housewife. You know of old the perfect workmanship of the Acme—the points about it which always made it the best cleanser-wringer procurable. The reversible handle, easily used, easily unscrewed and folded back when not in use. The two-way drain, which allows the housewife to drain the flow whichever way she wants it to go. The twin folding boards. The rustless bearings. The way in which perfect results are insured by scientifically applied pressure, which forces out the last clinging particle of soap scum and dirt.

After the war you will be stocking up again with all the good, essential products of a worthwhile peace. Among them washing machines. You know that your customer will look for the sign that a washing machine is good. You will say, "Yes, it's fitted with an Acme". There will be no need for discussion. You and she, partners in experience, know that that *is* the sign. The Acme always was—will be again—the soundest, finest rubber-roller wringer on the market.

ACME WRINGERS LTD · DAVID STREET · GLASGOW · S·E



ACME

Bright Copper Brazing by GAS

. . . . a proved and practical application for town gas firing to continuous bright copper brazing. The Incandescent "Spiro-Ray" heating system and a continuous mesh belt conveyor furnace combine to provide every essential feature for successful bright processing . . . . rapid attainment of working temperature, high thermal efficiency, low fuel consumption and maximum heat release. Request leaflet G.35 for details.

INCANDESCENT Heat Co Ltd · Smethwick · Staffs

TELEPHONE: SMETHWICK 0875 (8 lines)

LONDON OFFICE: 16, GROSVENOR PLACE, LONDON, S.W.1 TELEPHONE: SLOANE 7803 & 9818

BALDWINS

STAFFORDSHIRE BEST CHARCOAL

TINNED SHEETS & TINPLATES

Heavily Coated with Pure Tin

THE material for GAS METERS

ALL STAFFORDSHIRE PLATES are Tinned by a special process, peculiar to BALDWINS LIMITED, which ensures a solid, thoroughly even coating, and a real amalgamation between the Steel and the Tin.

Makers of the famous

COOKLEY K

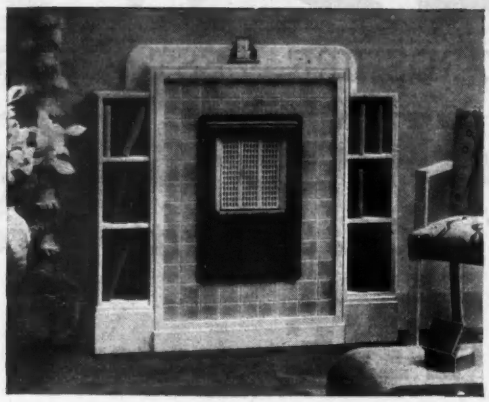
Known throughout the World as the finest Tinned Sheet produced.

Also makers of the following well-known Brands:

"WILDEN" **"ARLEY"**

"WOLVERLEY" **"UNICORN"**

RICHARD THOMAS & BALDWINS LIMITED



PORTCULLIS "RAYELLO" GAS FIRE

Design of unusual merit associated with advanced technical efficiency will continue to be characteristic qualities of the products of Bratt Colbran when peace-time manufacture is resumed.

Bratt Colbran Limited

Ten, Mortimer Street, London, W. West One

MAKERS OF THE PORTCULLIS RANGE OF PRODUCTIONS

Everything
AIR RECTIFIERS
from
BOOTHS · SPRAY GUNS
Start to
FANS · DUCTING
"Finish"
COMPRESSORS

Aeraspray
SYSTEM OF INDUSTRIAL SPRAY FINISHING

AERASPRAY MANUFACTURING CO. LTD.
1, VICTORIA STREET, LONDON, S.W.1
179-213, THIMBLE MILL LANE, BIRMINGHAM, 7
ALSO AT MANCHESTER, BELFAST, ETC.

This Long Length Copper Tube will save a lot of jointing . . .

Installation costs of Gas Supply services will be much reduced by the use of "KUTERLON" Long Length Copper Tube which is now supplied in coil form in lengths up to 60 ft. Annealing or the use of mechanical bending appliances are not necessary. Bending can be done by hand, and the tube can be laid easily in trenches and run round obstructions such as rock or tree trunks. "KUTERLON" will be available for post-war reconstruction, but meantime is supplied to current licensing regulations. Full information will be supplied on request.

ICI

IMPERIAL CHEMICAL INDUSTRIES LIMITED
LONDON, S.W.1

M.30

GIBBONS

REFRACTORIES

are giving Greater Efficiency in almost every type of Industrial Effort

GIBBONS (DUDLEY) LTD., DIBDALE WORKS, DUDLEY

Telephone 3141-2-3 (3 lines)

M-W.102

David Grant 100 cu. ft.
Optional Coin Meter

Pioneers in Pre-payment METERS

Although dramatic and grim events have punctuated the political life of Scotland's capital, its commerce has, in many fields, proceeded quietly to develop.

In the gas industry a notable contribution was made with the introduction of optional meters, and in 1895 David Grant were already offering prepayment meters with Optional Coin facilities. To-day, with their wide range of prepayment and ordinary meters, gauges and pumps, they still maintain that progressive policy which has made their name synonymous with service and satisfaction.

Sole Scottish Service Agents for
"RENRUT" CLEANSERS

EST. 1855

Members of the Society of British Gas Industries

David Grant & Co., Ltd.

East Crosscauseway, Edinburgh, 8
TELEPHONE: 41574 ALSO AT MANCHESTER

ARE YOUR BOILERS WELL FED?

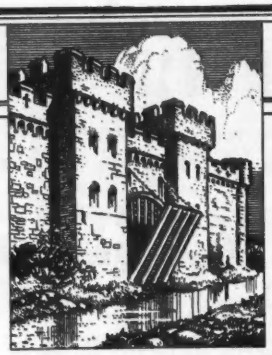
The service you get from your boiler will depend on the method you employ for its maintenance. So much depends on your FEED water that it becomes imperative that you have it analysed. But even that is not sufficient; only the correctly prescribed TRAWLSKALE compound will eliminate all scale-forming solids, preventing corrosion, saving time, money, etc. Dr. D. Skale is at your service.

DR D. SKALE

Write now for complete details. You will be under no obligation.

LABORATORY PRESCRIBED
Trawlskale
BOILER SCALE TREATMENT

write to **A. J. WILSON**, Tetley Works, Bolton Lane, BRADFORD, Yorks. Bradford 6858



PROTECTION

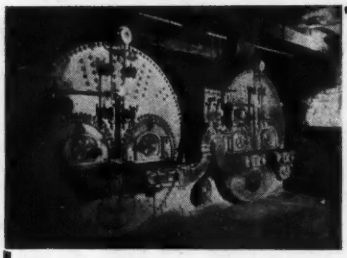
GAUNTLET

GAUNTLET

WEATHER TESTED PAINTS

ARCHD H. HAMILTON & CO. LTD

27-37 BARDOWIE STREET POSSILPARK GLASGOW N



THE

TURBINE FURNACE

has a reputation for

FUEL ECONOMY

BOILER EFFICIENCY

and the ability to give

LARGE STEAM OUTPUT

with

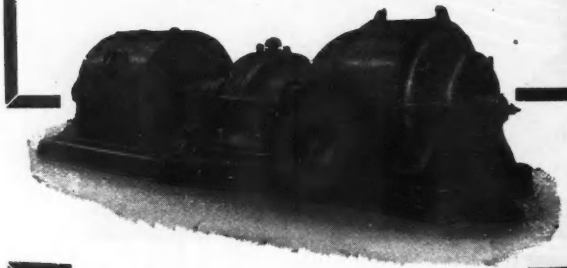
ALL CLASSES OF FUEL

THE TURBINE FURNACE Co. Ltd.
238b, Gray's Inn Road,
London, W.C. 1.

TURBO-COMPRESSORS & EXHAUSTERS FOR AIR AND GAS.

* * *

We build a complete range of Compressors & Exhausters for air and GAS, suitable for all purposes connected with the Gas Industry, including Turbo Compressors for large capacities, as illustrated below.

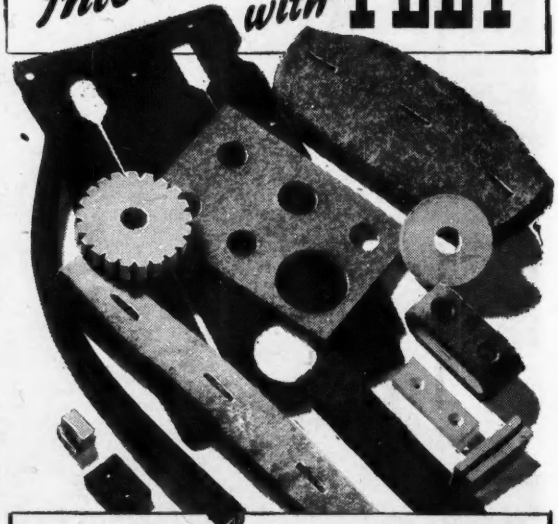


WRITE FOR PAMPHLET No. 1018 GIVING PARTICULARS —

REAVELL & CO., LTD.,
RANELAGH WORKS, IPSWICH.

Telegrams: REAVELL, IPSWICH. Telephone: 2124 & 5.

Into Battle with FELT



Woollen & Hair Felts, Cloths. Furnishing, Mechanical, Surgical. Washers, Strips and Gaskets. Gas Meter Washers. Felt Cut and Turned. Waterproofing.

STERLING TEXTILE INDUSTRIES LTD

STERLING WORKS, ALEXANDRA ROAD, PONDERS END
MIDDLESEX

'Phone: HOWARD 2214-5, 1755 'Grams: STERTEX, ENFIELD

CONTENTS

EDITORIAL NOTES

Looking Beyond London . . . 174
We Have Been Warned . . . 175
Storage and Smokeless Fuel . . 175
A Wartime Story 175
Whither Are We Drifting? . . . 176
The Exhibition 176

Personal 177
Obituary 177
Diary 177

Letters to the Editor 177
1944 "JOURNAL" Directory . . 177
New Holder at Newton-le-Willows . 178
Combustion and Chemical Industry . 178
French Gas Association . . . 178
Creosote-Pitch Mixture . . . 178
The Industry's Kitchen Planning Exhibition 179
Banbury Works Raid Damage . . 179
Edinburgh's Temporary Houses . . 179
Salaries of Municipal Chief Officials . 179

Leeds Gas Estimates 181
Steam Economy 181
Dividends 181
Removal of Organic Sulphur Compounds from Town Gas. By J. A. Tomes . 185
Repairing Refractories in Verticals . 186

Gas Products Prices 189
Gas Stocks and Shares . . . 190

THIS WEEK'S ADVERTISERS

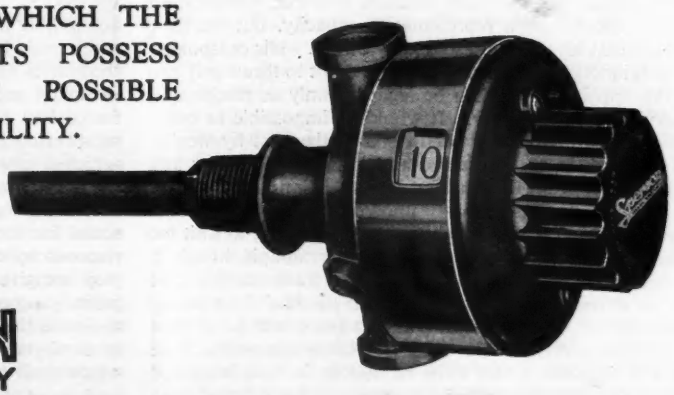
	PAGE
Aerospray Manufacturing Co., Ltd.	169
Acme Wringers, Ltd.	165
Alder & Mackay, Ltd.	187
Aspinalls (Paints), Ltd.	S2
Bale & Church, Ltd.	191
Blakeley, Firth, Sons & Co., Ltd. ...	191
Braddock, J. & J.	180
Bratt Colbran, Ltd.	168
Clayton, Son & Co., Ltd....	Cover IV
Cowan, W. & B.	Cover III
Crookston, S., & Co., Ltd. ...	191
Curtis, A. L.	S4
De La Rue Gas Development, Ltd.	Cover I
Dempster, Robert, & Sons, Ltd. ...	191
Diaphragm & General Leather Co., Ltd.	S4
Donkin Co., Ltd. (The Bryan)	Cover II
"Four Oaks" Spraying Machine Co.	S2
Gas Purification & Chemical Co., Ltd.	192
Gibbons (Dudley), Ltd.	170
Glover, George, & Co., Ltd. ...	161
Grant, David, & Co.	171
Green & Boulding, Ltd.	191
Griffiths Bros. & Co. (London), Ltd.	164
Griffin & Tatlock, Ltd.	S8
Hamilton, Archd. H., & Co., Ltd.	172
Harrisons (London), Ltd.... ...	191
Holmes, W. C., & Co., Ltd. ...	S1
Horseley Bridge & Thomas Piggott, Ltd.	S3
I.C.I., Ltd....	169
Incandescent Heat Co., Ltd. ...	166
Keith Blackman, Ltd.	S8
King's Patent Agency, Ltd. ...	192
King, Walter, & Co., Ltd. ...	191
Main, R. & A., Ltd.	184
Menno Compressed Air Greasecup Co., Ltd.	S4
Metropolitan Leather Co., Ltd. ...	S5
Mewburn, Ellis & Co.	192
Milnes' Meters, Ltd.	164
Mitchell, H., & Co.	S2
North British Rubber Co., Ltd. ...	S6
Pegson, Ltd.	Cover II
Press, William, & Son ...	Cover IV
Pulsometer Engineering Co., Ltd.	Cover IV
Radiation, Ltd.	182, 183
Reavell & Co., Ltd.	172
Royal Institute of Chemistry ...	S2
Siebe, Gorman & Co., Ltd. ...	S4
Slingsby, Walter, & Co., Ltd. ...	162
Sperryn & Co.	173
Stanton Ironworks, Ltd.	192
Staveley Coal & Iron Co., Ltd. ...	S3
Sterling Textile Industries, Ltd. ...	172
Stoves, Ltd....	162
Strachan & Henshaw, Ltd. ...	161
Technological Institute of Great Britain	191
Thomas, Richard, & Baldwins, Ltd.	167
Trotter, Haines & Corbett, Ltd.	191
Turbine Furnace Co., Ltd. ...	172
Underpressure Engineering Co., Ltd.	S4
Walker, C. & W., Ltd.	187
West's Gas Improvement Co., Ltd.	188
Whessoe Foundry & Engineering Co., Ltd.	163
Westwood & Wrights, Ltd. ...	191
Wilson, A. J.	171
Winn & Coales, Ltd.	S7
Trade Cards	189
Appointments Vacant	192
Books Wanted	192
Company Notices	192
Educational	191
Miscellaneous	192
Patents	191
Plant, &c.	191
Plant, &c., For Sale and Wanted...	192

The "Journal" and "Gas Service" Offices are at 51, High Street, Esher, Surrey. 'Phone: Esher 1142.
Communications addressed to Bolt Court have to be forwarded, and this causes delay.

Spersom
TRADE MARK

THERMOSTATS

THE SPECIAL FEATURES WHICH THE "SPERSOM" THERMOSTATS POSSESS ENSURE THE HIGHEST POSSIBLE ACCURACY AND RELIABILITY.



ENTIRELY BRITISH MADE
BY

SPERRYN
AND COMPANY
MOORSOM ST BIRMINGHAM

§§

GAS JOURNAL, FEB. 7, 1945

VOL. 245 97th YEAR No. 4264

EDITORIAL NOTES

LOOKING BEYOND LONDON

WE have formed the opinion that those who are at present engaged in trying to disentangle matters at Headquarters are far more willing to have the limelight on their efforts than was any previous generation at Gas Industry House. In order, however, to give them no excuse as far as we are concerned for slipping into the bad old "private and confidential" ways, we are constantly asking for progress reports, and we are assured that progress up to the present is excellent. Our last enquiry was countered with another which is full of significance. Could we tell Headquarters how the Districts were progressing with putting *their* houses in order? This question accords fully with our conception of the function of Mr. A. E. Sylvester's Organization Committee and of the joint Councils of the N.G.C. and the B.C.G.A., to which it is responsible. Anybody who thinks that this emergency set-up is capable of reorganizing the Gas Industry is doomed to be disappointed, and fortunately they themselves realize this better than anybody. Their immediate goal is the reorganization of Gas Industry House and its intricate tangle of overlapping and often directly conflicting interests, so that the Headquarters shall become a true reflection of the experience, the strength, and the will of a united Industry. Whether or not there has existed in past times a bureaucracy at the top which has sought to dominate the policy of the whole is a question hardly worth debating in the urgency of the present. One thing is beyond dispute; that by its very nature the conception of democratic control and united strength places upon the Districts the onus of making up their own minds what their will really is, and whatever past faults there may have been at the top, in many cases the right machinery simply has not existed in the Provinces for deciding even so apparently straightforward an issue. Is it not the fact that only too often the disagreements in policy between the two executive councils at Gas Industry House were carried on in their counterparts in the Provinces? If we are to achieve peace and unity, any thought of a ruling body at the centre must be banished, but guidance is a function which the Districts have a right to expect from the central authority, and we wonder to what extent the clean-up now in progress in London is inspiring parallel activity elsewhere.

Beyond these thoughts, which are our own, we are able to-day to publish with very great pleasure a letter bearing in part on the same angle. Mr. Norman Hudson, it is true, writes in an individual rather than a representative capacity, but we have little doubt that his views are shared by others. His outspokenness at this juncture, far from being an attempt to throw grit into the works, can in our opinion be regarded only as rendering a great service to the Industry. It would be impossible to begin to assess the harm that has been done in the past by weakly accepting events as they occurred and grumbling in holes and corners *afterwards*. Mr. Hudson asks questions at the right time. Unless we have seriously underrated the worth of the reformers at Headquarters he will not have overlong to wait for his answers. To two phrases in his last paragraph, however, we straight away take exception. A full and frank statement let us have by all means. But "confidential if you like"—we do *not* like; and in fact we sincerely hope that there will be a most searching salvage drive at Gas Industry House against the large stocks of indiarubber which must be tied up in "confidential," "secret," and other rather futile stamps. It has always been a mystery to us why so many matters circulating within the Industry are "secret and confidential." To whom, is it feared, they will be communicated? And if they are, is harm likely to result anything like equal to that of the feeling of mistrust which is engendered among the personnel of the Industry by this continuous and grossly excessive policy of "hush"? Secondly, Mr. Hudson refers to "those who control our destinies within the Industry," to which the answer must once again be given that the Industry, if it hopes to get anywhere, must control its own destinies. It would appear that the notion of a governing clique laying down a policy so perfect that it is indisputably acceptable to all is going to be long adying. We can only suggest that the Organization Committee shall lose no time in forcefully and publicly repudiating any such fantastic aspiration, and that members of the Joint Council be urged to impress upon their own districts that there is no hope of salvation if they sit back and expect others to shape their destiny for them.

On the subject of publicity Mr. Hudson will know that we are in full agreement with him if he has done us the honour of reading recent leaders, especially one which appeared on Dec. 13, in which we expressed precisely the same anxieties as he does. It was about that time that matters were beginning to move at Headquarters and, knowing that this was a foremost question in the minds of the prime movers, we have not pursued it in detail before there has been time to revolutionize the position. But events since then have not stood still, and it is constantly becoming more evident that nothing short of revolution will serve. An entirely new conception of the meaning of publicity is needed on the highest plane, and we take this opportunity of emphasizing that our strictures are not in any way concerned with the efforts of the attenuated permanent staff of the B.C.G.A. Short of personnel, of material, and of many other desiderata, their output has at times been truly remarkable within the narrow limits imposed by a crabbed national policy.

We shall leave others to answer in detail our correspondent's misgivings concerning the temporary shelving of the B.G.A. Indeed, we find it difficult to follow all his reasoning in this the weak part of an otherwise valuable contribution. While he cries for democracy, he appears to suggest that all "sectionalized interests" should have been undemocratically compelled to join the Association. For we find it hard to believe that efforts to form the B.G.A. have so far failed because the B.G.A. refused to accept their membership, our idea being that difficulties were due much more to the discovery that "sectionalized interests" found themselves unable for various reasons to unite as one entity. And we much prefer this theory to the suggestion that individuals feared loss of eminence, which does not seem in the slightest substantiated by a study of the names of those who have achieved eminence, or have had eminence thrust upon them, by appointment to the Organization Committee. Will not Mr. Hudson, and those who think with him, agree that in actual fact the greatest single obstacle to national unity has been removed by the union of the N.G.C. and the B.C.G.A.? Will they not give this union their support while it tackles the desperately urgent problems such as publicity and new homes, in the belief that it forms the most hopeful foundation upon which to begin building the all-embracing, and so far elusive, body which shall eventually apply to every good cause the "whole backing of every interest in the Gas Industry"?

WE HAVE BEEN WARNED

As all people in Great Britain know to their discomfort, the first month of the current year was not noted for its mildness; on the contrary the weather, while perhaps giving cold consolation to record enthusiasts, brought cold comfort to everybody—and a minimum of coal comfort. In "coal" we include its derivatives, gas and electricity. Grimmer and somewhat less gay, and sympathizing wholeheartedly with our Allies placed in a fuel situation infinitely worse than our own, we survived the bitter taste of winter's antics, throughout being exhorted—if we were lucky in having any solid fuel—to use the least coal possible, to turn off the gas tap, and to switch off the electricity. Indeed, on two or three occasions the electricity supply was switched off at the source, and there were periods when gas pressure left much to be desired. Every now and then throughout the month the gravity of the fuel situation was emphasized in the House, in the Press, over the wireless, and the domestic consumer quite agreed that the situation was the reverse of humorous. In the event those who relied solely or largely on gas or electricity came off better than those who had looked to solid fuel which did not materialize. Solid fuel was rationed effectively by the simple expedient of not supplying it. Neither gas nor electricity was of course rationed, except by the exercise of conscience—a factor noted for its variability. Towards the end of the month the regional controllers sent a letter to every firm in the British Isles calling on industry to make its biggest contribution to fuel economy, stating that unless an all-round economy of at least 10% could be secured and maintained for some time, the Government would be compelled to issue directions, and pointing out that even if the weather changed, coal stocks could not be put right for several weeks. The weather did change, for which we were well and truly thankful, and we assume that the putting-right process is now in operation; in fact there is much to be put right, and not coal stocks alone. There are many lessons, not necessarily new ones, to be learned from January's cold.

During the war, with less solid fuel, reduced labour, transport difficulties, and so on, we have suffered through the lack of foresight in many directions which was so conspicuous by its absence in the pre-war days; we should have suffered more had we not enjoyed a succession of two exceptionally mild winters. We have been brought up to think that we have reserves of coal which we can afford to waste, and we have wasted it accordingly; we have built our houses without insulation or any real attempt to provide comfort and protection against the elements during cold weather; we have been taught to believe that our winters are not severe, whereas records show that our winters can be very cold indeed, and in fact very often are; our plumbing arrangements may have created a pre-war plumbers' paradise, but they are a mechanical and engineering travesty and lacking in common sense; so accustomed have we been to a plentiful coal supply that we have persisted in installing in our homes extremely inefficient appliances for burning it, and at the same time have not provided adequate facilities for the storage of solid fuel to cope with sudden and often prolonged peak demands; we have not been made to realize what a large input of heat is needed to keep our heat-leaky houses warm and comfortable in the cold months.

STORAGE AND SMOKELESS FUEL

THE last-mentioned point is all-important. Without means of storage, the electrical industry has been gravely concerned about supplying what, after all, is in terms of the nation's heat requirements a relatively paltry domestic heating load. With means of storage and a flexibility unknown to the generation of electric current, the Gas Industry is correspondingly better placed. But the base heating load in severe cold weather has to be met largely by solid fuel, and it seems that for some time to come we shall have to place reliance on solid fuel—which should be smokeless. There is much to be done by better insulation of our homes, by reasonable plumbing arrangements, by the installation of less wasteful solid fuel appliances, by the provision of adequate storage facilities; and all this can go hand in hand with a vast expansion in the use of gas. It must have been small comfort to many thousands during January who shivered in overcoats or rugs before an empty hearth—people who normally, because they have no solid fuel storage space, buy their coal or coke in very small parcels—to learn from the Ministry of Fuel and Power that neither consumers nor Government could expect horses to stand up on icy roads, or to expect a depleted labour force to carry solid fuel up flights of steps to upper storeys. To those who had storage space, and had been exhorted to arrange for the storage of coal and coke in the summer months to cope with needs of the winter, it must have proved ironical to realize what little solid fuel was really delivered for the purpose.

During the first month of this year weather conditions were such that probably a week's national output of coal has been lost, partly because workers could not get to the pits, partly because some pits were closed. In certain parts of the country it proved impossible to move coal; locomotives could not get water; fog added to the difficulties. Are we to suppose that such eventualities will never recur, and to say that, having undergone the January, 1945, fuel ordeal, all is well? As far as gas and electricity undertakings were concerned, the Minister of Fuel and Power made it clear that difficulties of supply of gas and electricity were due, not to shortage of coal at gas-works and electricity generating stations, but to the over-straining of the capacity of both. But has the wartime decline in coal production had no effect on the general situation? Dispassionately let us have regard to a few facts and set out a little potted history.

A WARTIME STORY

WE cast our mind back. The winter of 1941–42 was pleasantly mild; there was absence of enemy action from the air; transport was relatively smooth. Yet in that winter there was a temporary coal famine. Over 40% of the gas undertakings of the country had less than four weeks' stocks of coal. In April of 1942 the President of the Board of Trade declared that H.M. Government had decided to introduce without delay a comprehensive scheme of fuel rationing. The aim was to reduce the domestic consumption of coal by about 10 million tons a year. At once the argument was advanced that the cost and trouble of any practical scheme of rationing would be out of all proportion to the possible saving of coal. A call was made for the utmost production of coal and gas and coke. The Government "held firm" about rationing, stating categorically that it was essential to the war effort. Exhortations to the domestic consumer to economize in the use of fuel had the unhealthy reaction in increased consumption of the annual order of a million tons of coal, and the tendency towards maldistribution of fuel supply grew. The matter was one of urgency, and there came the "Warmth for All" report of Sir William Beveridge, described in some quarters as "frivolous enterprise." The Beveridge plan coupled warmth for all with coal economy. The rationing suggested certainly verged on nothing approaching fuel starvation—for example, for a seven-room house with seven occupants in the North of England seven tons of coal, or 688 therms of gas. For a four-room house with four occupants in the South of England there was to be an allowance of 6 cwt. of coal or its equivalent in other forms of energy every month. For sickness and other sundry forms of hardship there were to be additional supplies elastically interpreted. The Government had regard to the "warmth for all" report, reiterating that in the national interest rationing was essential. That was in May, 1942. The opponents of rationing, among them the Gas Industry, suggested that if voluntary absenteeism at the pits could be reduced to the pre-war rate, coal output would be increased by

15,000,000 tons a year. Under pressure of opinion the Government piped down the following month, declaring the postponement, if not the cancellation, of fuel rationing. In the same month the Minister of Fuel and Power expressed anxiety that we were eating into our stocks of coal. We were certainly using inferior or difficult fuels. Major Lloyd George intimated that, after all, rationing might have to be introduced.

Time marched on. With January of 1943—a month pleasantly mild and balmy—came a severe Control of Fuel Order, with sundry heavy penalties for exceeding specified consumption of any fuel. But in the February the Minister was jubilant about the situation. Compulsory rationing could go. True, there was a gap of 12,000,000 tons between coal production and consumption. True that more "pressure"—if not gas pressure—was to be exercised on industrial consumers. However, fireside targets imposed on fireside fronts would win the day, and no longer would one householder regard fuel economy as his neighbour's voluntary concern. By April, 1943, the Green scheme for the remuneration of the diggers of coal had been in operation for six months, during which period the standard output of coal had not been reached in any week. It was admitted freely that the coal output bonus had failed in its purpose; equally openly it was stated that the miners had a violent dislike to contributing to income tax. It was shown that cash alone was insufficient incentive. In that month Major Lloyd George said he was very dissatisfied; the outlook was "not good," it was, in fact, a matter for "serious concern." In June came the report of a Select Committee of the House of Commons expressing grave concern about the dangerous decline in coal production and about persistent voluntary absenteeism in the pits.

September, 1943, arrived. Coal supplies decreased in quality. Intensification of the fuel economy campaign was marked by these words from the Fuel Minister: "The time has gone when we can afford merely to burn coal and allow its vast potentialities to go waste." In January of 1944 it was laid down that maximum coal supplies to domestic premises in the South of England would be limited to 4 cwt. a month, houses in the North being given a hundredweight on top of this. These terms were renewed in April, when it was pointed out that 4 cwt. was not to be regarded as a ration, but that, if consumers were lucky, they stood to get this amount. It was revealed in July that since the war started there had been a falling-off in coal output at the rate of 9,000,000 tons a year, that absenteeism had continued to increase, that output per man shift at the coal face had materially decreased; and in October it was stated that during the previous six months coal production had fallen by 5 cwt. a man each week, and that over a single quarter strikes and disputes had resulted in a loss of 600,000 tons. And this brings us to January this year, with, we were assured, plenty of coal but lack of labour and transport to cart the coal about. But long before January the would-be consumer of domestic coke had been hard put to it to get supplies, delay in delivery—and this we would emphasize, before the severe cold set in, and when horses could keep their feet on the roads—amounting in many instances to over a couple of months or more.

WHITHER ARE WE DRIFTING?

THE foregoing are facts, not fancies—facts which to our mind serve as grounds for the belief that, without some co-ordinated fuel plan and the implementation of wiser housing ideas and ideals, dreams of future domestic fuel bliss will remain dreams, and we are getting rather tired of pleasantries concerning fuel schemes to satisfy the many income-groups the individual needs of which have been so closely studied and so wordily expressed. We realize only too well that we have been writing about conditions during a long war not yet ended; we appreciate that it is easy to indulge in retrospect; we know how excellent have been the records in wartime of both the gas and the electricity industries; we have no inclination to cast stones at the coal industry, however many stones we find in our coal supply. The demand for electricity, 70% of which is industrial, has increased over 50% above the peacetime level; demand for gas, 70% of which is domestic, has increased by about 15%. Electricity is now the largest single industrial consumer of coal. From the suppliers, the cry to the domestic consumer of electricity has for long, and specially since the start of 1945, been *caveat emptor*; it has been pointed out to the domestic user of current that every time he switches on an ordinary 2 kw. fire it is equivalent to his switching on well over 100 60-watt electric lamps. So, take care before you switch on! The while housing authorities are surpassing themselves in their anxiety to see that heavily-loaded electric appliances of all manner and kind are installed in new housing, obviously making for wholly unprecedented peak demands for electricity—peak loads of a type which even at present in what may be regarded as a small dimension, are giving the electricity industry a headache. We suggest that the scrap of past fuel history we have sketched in barest outline points unmistakably to the need for a co-ordinated fuel plan. Surely the course of events during the past five years constitutes a fuel warning. And what is this "freedom of choice"?

THE EXHIBITION

THE Gas Industry's Kitchen Planning Exhibition, eagerly awaited, much discussed, is now a staged fact. This practical demonstration of how the Industry can help the people in the homes of the future, in houses and flats of every description, and strictly in accord with the means, tastes, and desires of the occupants, was opened in London at Dorland Hall, Lower Regent Street, on Monday last by the Minister of Reconstruction, Lord Woolton. What the Minister had to say about this collaborative, carefully planned, and skilfully executed enterprise, which goes far beyond what one normally conceives of a "gas exhibit," must be left to record in a later issue, but we have been able to obtain in advance and give to-day a brief impression of the exhibition as a whole.

As we mentioned in these columns a fortnight ago, the project—a seriously considered project—was timed for launching as a comprehensive and thoroughly representative demonstration in June last. At that time, however, national events of transcending importance naturally called for a postponement of the original plans. But now we have the exhibition a *fait accompli*, in full, vigorous, swing, drawing the crowd. It will remain open to the public till March 3, and its cumulative effect should be of immense benefit to every interest, section, and individual concerned with the provision, equipping, servicing, and occupancy of new homes.

Colourful, vivid, alive, this ambitious venture in co-operative and educative display as an Industry will, we hope, be a forerunner to later demonstration on co-operative lines when peacetime wheels of industry are turning on the production of new and improved gas and coke domestic equipment. Comprehensive yet compact, the present exhibition explains with candour and sincerity what service and what type of domestic equipment the housewife may expect from the Gas Insustry on the word "go"—in the present and in the immediate future. Some of the gas and smokeless solid fuel appliances shown are novel; most are of immediate pre-war pattern. But all fit in, adapted, and to an extent modified, maybe, with the new ideas of unit planning, rational plumbing, and house construction to meet future needs. In present circumstances the exhibition, which for the most part sets a high standard in the art of display, appeals to us as a valuable and an invigorating tonic, picturing to housing authority, architect and builder, and housewife alike not a nebulous dream, but practical achievement, the results of which can be enjoyed now in measure limited only by the rate of expansion of the country's building reconstruction programme and the availability of labour and material.

Personal

Mr. ERNEST WALTER POWELL, Senior Partner in the firm of Messrs W. R. Powell & Sons, Solicitors, of Weston-super-Mare, has been appointed a Director of the Weston-super-Mare and District Gas Company in the place of the late Mr. R. H. C. Butt.

* * *

Mr. W. W. SCOTT, son of Mr. J. W. Scott, has been appointed London Representative of Messrs. R. & J. Dempster, Ltd., Manchester, in place of Mr. N. Dobson, who retired recently.

Obituary

The death has occurred of Mr. R. H. GARLICK at the age of 81 years. Mr. Garlick held the position of Distribution Superintendent with the Salford Gas Undertaking from Jan. 1, 1896, until the date of his retirement on March 31, 1929. Prior to his appointment at Salford he had some eight years' service with the Doncaster Gas Department.

Diary

Feb. 13.—B.C.G.A. Salesmen's Circle (Midlands District): Chamber of Commerce, Birmingham, 2.30 p.m.

Feb. 13.—Illuminating Engineering Society, Institution of Mechanical Engineers: Storey's Gate, S.W. 1, 6 p.m. Discussion on D.S.I.R. Report, "The Lighting of Buildings."

Feb. 13.—Joint Meeting of Chemical Engineering Group (S.C.I.) and Institution of Chemical Engineers: Burlington House, W. 1, 2 p.m. Paper on "Ammonia Synthesis from Coke Oven Gas," by J. Watson Napier.

Feb. 13.—National Federation of Gas Coke Associations, General Committee: Gas Industry House, 10 a.m.

Feb. 14.—Institute of Fuel (North-Western Section): Grosvenor Museum, Chester. Paper by A. L. Longworth on "Thermostatic Control."

Feb. 19.—London and Counties Coke Association: Finance Committee, 11 a.m.; Executive Committee, 11.30 a.m.; Central Committee, 1.30 p.m., Gas Industry House.

Feb. 23.—Institute of Fuel: Joint Conference with National Smoke Abatement Society.

Feb. 24.—Manchester and District Junior Gas Association: Address by Dr. J. G. King, Director of the Gas Research Board.

Feb. 24.—Yorkshire Junior Gas Association: Meeting at Bradford. Paper by A. Cole.

Feb. 27.—Illuminating Engineering Society, Institution of Mechanical Engineers: Storey's Gate, S.W. 1, 5.30 p.m. Address by Dr. J. W. T. Walsh.

Feb. 28.—Institute of Fuel (North-West Section): Conference on Preparation of Coal. Engineers' Club, Manchester, 10.30 a.m.

Mar. 7.—Area Meeting of Institution of Chemical Engineers jointly with South Yorkshire Section of Royal Institute of Chemistry: Scunthorpe. Paper by Dr. E. W. Smith, C.B.E., "Future Aspects of Research for Industry."

Mar. 21.—Southern Association of Gas Engineers and Managers (Eastern District): Gas Industry House, 2.30 p.m. Paper by J. E. Davis (South Metropolitan).

Mar. 22.—Midland Counties Coke Association: Annual Meeting, King Edward House, Birmingham, 2.30 p.m.

Letters to the Editor

Electricity and New Homes

DEAR SIR,—At the risk of being boring to your readers, I am writing to you for the second time in a few weeks on this subject. I would like first of all to congratulate you on the Editorial Note under this heading in your issue of Jan. 24. You put the case simply and clearly, but unfortunately—this without any disrespect—the "GAS JOURNAL" is not read by the people who will finally make the decision in these matters.

This brings me to a tie-up between your Editorial and the letter from "Shareholder" in the same issue. Is it not all a case of publicity? We have a good case, but seem to be the only people who know it or, at any rate, acknowledge it. When Mr. Foot left the B.B.C. to go to the coal industry his name and actions became news; when the electrical people decided to spend 90 million pounds on post-war extensions it became news; and if I read things aright, this did not happen casually, but news value was achieved through correct handling of the case by people who know how it is done, and how to do it.

Many years ago, when the "Wizard in the wall" campaign was launched by E.D.A. and the Gas Industry met to consider the question, I made a statement before the assembled representatives of the Gas Industry that the B.C.G.A. could have practically all the money it could spend *if* it could produce the rabbit out of the hat—those were my words—in the form of news value. "Shareholder" believes that before the war we were achieving some large measure of success in this direction, but I am afraid that I do not hold the same opinion.

Given one central body within the Gas Industry of the type indicated by the proposed B.G.A. which can act and talk for the Gas Industry, I think there is a far greater chance of achieving news value for the Industry. Although the appointment of a Joint Governing Body of the Gas Industry under the Chairmanship of Mr. A. E. Sylvester is to be applauded, the only bodies the rank and file have heard of as being joined together are the N.G.C. and the B.C.G.A. What about all the other bodies? Can we not merge all the sectionalized interests that are in the Gas Industry, such as coke, tar, benzole, industrial centres, women's councils, and the like, and put everything under the control of one national body, so that whenever any small sectionalized interest of the Gas Industry comes under review, it will not have to fight its battle as a small body, but will have behind it the whole backing of every interest in the Gas Industry?

What was wrong with the proposed B.G.A.? Why was it shelved? Why has there been a sudden change of tactics? Is it because some one or two people thought that in such an organization they would lose that eminence of position which they had held in their small sectional interest within the Industry? Had it, in its final draft form, become too democratic? If that is so, and such action can dictate the policy of the Gas Industry, then woe betide us! Or was it, as I have been informed, because the time was not considered opportune in view of the Government's decision to set up the Heyworth Committee? If that be the reason, then surely the time is inopportune to set up a Joint Governing Body of the Gas Industry under Mr. A. E. Sylvester—that is not my opinion.

When will someone in authority answer these questions, and let us rank and file members of the Industry who have not only our livelihood to earn within it, but have had in the past sufficient faith to put our savings into it, know what is going on, and if not in detail, then in general, indicate the policy of the Industry and the reasons for the form that policy takes?

This letter, Mr. Editor, has finished with a series of questions, questions which I should think are causing deep concern to many within the Industry; questions which will possibly, as many before them, never be answered. But I have asked them in the hope that the ventilation of them might result in a full and frank statement, confidential if you like, on what are the present aims and objects of those who control our destinies within the Industry. Informed of the objectives, and instructed in the plan of campaign, there is just a possibility that the rank and file can very materially assist in the fight for recognition, freedom, and development which lies ahead, but such information and instruction will not be a bit of good if it is not available until after the fight.

Mirfield Gas Company,
Yorks.
Jan. 30, 1945.

Yours faithfully,
NORMAN HUDSON.

Only ¾d. per Hour!

DEAR SIR,—Throughout this rigorous wintry weather, I and a neighbouring family (also blitzed) have shared the bright, cheery, comfort and warmth of my open domestic coke fire, and as from one blitzed person to another, I would like to make *better known* the remarkable comfort, combined with economy, of the open domestic coke fire.

A weighed test showed that in 14 hours' burning, from 10 a.m. till midnight, the coke fed to the fire was 28 lb. As gas-works graded coke costs 3s. 9d. per cwt., it shows that the fire *cost only ¾d. per hour* to maintain. The room was as draughty as most blitzed rooms, and was held at over 60°F. for most of the day, rising to 70°F. during the evening, after the blinds had been drawn and when the door was less frequently opened—and this in spite of many degrees of frost, snow, and biting winds outside the damaged windows.

Yours faithfully,
Jan. 31, 1945. H. J. TOOGOOD.

Efficiency of Small Gas-Works

DEAR SIR,—I was interested in the remarks of Mr. T. L. Tallentire, in his letter, "Electricity in New Homes," published in the "JOURNAL" of Jan. 31, regarding small works. Is he fair or even right in his statement, "It may safely be assumed that the service supplied by the 647 smaller undertakings falls far short of that standard"? His experience of small works may, of course, cover a lot of ground, and I agree about the condition of many small works, but I think it may safely be assumed that quite a number of small undertakings are giving a gas service—*i.e.*, regular C.V., constant pressure, and a personal service to consumers—fully equal to that given by some of their larger brothers.

I feel it unfair to put all small works in the bad class.

Gas-Works,
Chatteris.
Feb. 2, 1945.

Yours faithfully,
H. SALE,
Local Manager.

1944 "Journal" Directory

Page 38.—KETTERIZ G. J. F. Lord, *M.&S.*, *vice* T. E. Maddocks.
„ 56.—READING. F. G. Symon, *E.&G.M.*, *vice* D. H. Helps.

New Holder at Newton-le-Willows

A new holder was inaugurated on Jan. 20 at the Gas-Works of the Newton-le-Willows U.D.C. by the Chairman of the Gas and Water Committee, Mr. Andrew Tully, J.P. The holder, three-lift, frame-guided in steel tank, of a capacity of 600,000 cu.ft., was designed and erected by Messrs. Clayton Son & Co., Ltd., Leeds.

Following the opening ceremony the assembly were entertained at tea in Newton Town Hall. Mr. C. E. Wolfe (President, Earlestown Co-operative Society, Ltd.), deputizing for Sir Robert Young, O.B.E. (M.P. for Newton Division), who was absent owing to illness, proposed the toast "Newton-le-Willows Urban District Council," and referred to the work Councillor Tully had done for the Gas Industry during the 18 years he had been Chairman of the Gas and Water Committee. Councillor Tully responded.

Mr. W. T. Hainsworth (Gas and Water Engineer, Newton-le-Willows) proposed "The Contractors," explaining that the gasholder and steel tank had been specially designed and erected by Messrs. Clayton Son & Co., Ltd., of Leeds, to suit a site affected by mining subsidence, and the outcome was a thoroughly good job. Clayton's had a reputation in the Gas Industry of over 80 years' standing, and it had been further enhanced. Mr. Hainsworth also commented on the speed the firm had erected the holder once the steel was obtained. Erection was started in March, 1944, and the holder was ready for water and test in September. Gas was put out to the town from the holder on Oct. 11. The foundations were carried out by the F. C. Construction Co., Ltd., of Derby, a firm with a big experience of foundations for gas-works plant, and the new district governor, which was of the modern diaphragm type, had been supplied by the Bryan Donkin Co., Ltd., Chesterfield. His dealings with the firm over a period of many years had always been of the best. Clearing the site, demolition of old buildings, new governor house and boundary wall had been carried out by the Council's Housing and Works Department, and in thanking them, Mr. Hainsworth also paid tribute to his own staff, who had carried out the gas main connexions, which included some tricky under-pressure work. The Manchester Paint and Varnish Co., Ltd., had supplied the paint for the steel structure, and he had every confidence in their products.

Mr. L. Hartley (Messrs. Clayton Son & Co., Ltd.) responded on behalf of the contractors, and at the outset thanked Mr. Hainsworth for the unfailing assistance he had rendered to them. As an old contractors' man, Mr. Hainsworth appreciated the difficulties on contracts of this nature, but war conditions, including the filling up of endless forms, and so on, made their task many times worse. A number of years ago there was an attempt made to standardize gasholders, but nearly every contract had its own peculiarities which demanded adjustment to suit. In the case of this holder the trouble was the liability of the site to movement from subsidence, so they had made it as large in diameter as possible, to spread the load.

Councillor G. Johnson, Chairman of the Housing and Works and A.R.P. Committees, proposed the toast "The Gas Industry," and stated that as a member of the Electricity Committee he had accepted the honour with some trepidation, but without a shadow of doubt the Gas Industry had done magnificent work and had helped in the salvation of this country. Mr. Hainsworth had put their gas-works on its feet, and he wished him and the Industry to which he belonged every success.

Mr. R. L. Greaves, Gas Engineer and Manager, St. Helens, responding, remarked that since electricity had been mentioned, he would give as a motto to any authority undecided what fuel service to use in their new housing, "use both." The Gas Industry was anxious that householders should have the democratic right to choose either gas or electrical appliances. There was not much doubt that most people wanted electric lighting, but nine women out of every ten preferred gas for cooking.

Combustion and Chemical Industry

A Combined Meeting of the Glasgow and Edinburgh Sections of the Society of Chemical Industry was held on Jan. 19, at the Royal Technical College, Glasgow, at which Professor D. T. A. Townend delivered the Jubilee Memorial Lecture entitled "The Present Era in Combustion." Members of the Scottish Section of the Institute of Fuel were also invited.

Professor Townend outlined the wide field covered by a knowledge of combustion processes, and indicated their importance to the chemical industry generally. He made special mention of recent advances in such directions as the accurate determination of heats of combustion. In spite of the importance of such data in the field of thermo-chemistry, little, he said, had been achieved until very recently for more than 50 years. The data now forthcoming from the American Bureau of Standards were of the greatest importance in the calculation of equilibrium in hydrocarbon, &c., systems. Within the last decade also our knowledge of the combustion of higher hydrocarbons had been established on a new basis, largely in association with developments in petroleum fuels. The Lecturer also gave an account of luminescence phenomena observed with gas-heated sources, and gave new information regarding the mechanism of the oxidation of coal.

French Gas Association

On Jan. 31 the President of The Institution of Gas Engineers welcomed at a small informal luncheon two representatives of the Union Syndicale de l'Industrie du Gaz en France who have arrived in London on an official mission. They are M. Claude Desanges (President of the Société "Gaz et Eaux") and M. Pierre Agron (Chief Engineer of the Société d'Eclairage, Chauffage et Force Motrice).

M. Desanges was one of the official representatives of the French Gas Association who attended the 76th Annual General Meeting (Murdoch Centenary) of the Institution in June, 1939.

The visitors have had a busy programme of discussions with prominent members of the British Gas Industry concerning technical, economic, and administrative aspects of the Industry. They also attended the opening functions of the Kitchen Planning Exhibition (Dorland Hall, London) on Feb. 5.

They will take back with them to the members of the French Gas Industry the cordial greetings and good wishes of their colleagues in this country.

Creosote-Pitch Mixture

Soon after the war started, industrial users of imported petroleum fuel oils were asked to replace them, wherever practicable, by home-produced creosote-pitch mixture. More than 800 plants (of wide variety) have been converted to the use of this fuel, and more than 500,000 tons of creosote-pitch mixture is being consumed annually (which is about two-fifths of the total amount of liquid fuel at present burnt in industry).

C/P (as it is now commonly called) should not be regarded as being merely a "second-best" fuel, to be tolerated only until such time as other liquid fuels become available. Generally speaking, C/P is looked upon as a satisfactory alternative to other liquid fuels, and as being capable in some instances of improving thermal efficiency. Of course, to get the best results from C/P skilled application and careful supervision are necessary. There has now been published by the Ministry of Fuel and Power information concerning the application of C/P. It is contained in Fuel Efficiency Bulletin No. 36, a 24-page booklet.

The early part of the bulletin gives technical data such as the specified blend, viscosity, calorific value, and so on. The next section, on the application of the fuel, is practical, easy to follow, and quickly grasped. First there is information on storage tanks and the methods to be used for keeping the fuel at its proper storage temperature. Then there are descriptions of the two main types of C/P system—the ring main system and the gravity feed system. These are clearly illustrated with all the main parts listed and keyed. No matter what system is in use there are a number of essential points common to all. The bulletin gives these points in quick-reference form. A section devoted entirely to burners is a prominent feature of the bulletin. This is followed by a chapter on combustion and air supply, and finally, some operational difficulties are singled out and expert guidance offered in meeting them.

Fuel Efficiency Bulletin No. 36, "Creosote-Pitch Mixture (Coal Tar Fuel '200') " is available free of charge from the Ministry of Fuel and Power, London, or from Regional Offices of the Ministry.

A.T.S. Girls on searchlight sites, at their own request, have been taking cookery lessons at the Pinner Showrooms of the Gas Light and Coke Company. Most of the girls are either married or engaged to men in the Forces. Leaving school, as they did, to go straight into the Forces, many of them had not previously had an opportunity of learning to cook. It is hoped to extend these classes to the other Women's Services.

The Industry's Kitchen Planning Exhibition

Colourful, Arresting, Practical, Display

FOR some time now the Gas Industry, working through its Domestic Heat Services Committee, which in its wide sphere of activity is representative of the Industry as a whole, has been busy in arranging for an exhibition to show everybody interested, from responsible housing authority to humble housewife, what it has to offer in the way of heat service for the homes of the future—large, medium, and small homes, houses and flats, temporary and permanent dwellings. Through the Committee the Industry has sought and gained the collaboration in this important project not only of the architect and builder but of very many industrial firms having new ideas and new products for equipping the kitchens of future homes to eliminate drudgery and to make the lot of the housewife a happy and very interesting one in which she can take pleasure and pride.

A Collaborative Effort

As long ago as last June plans were sufficiently well advanced for the staging of this well-considered project. The Committee's Architect Consultant, as a result of 18 months' investigation of methods and needs—an investigation including an extensive tour of the United States—and with free rein and fresh idea, had produced plans for kitchens to suit all types of homes, new or converted, of varying sizes and income levels. National events of an importance transcending that of the staging of an exhibition of the kind, an exhibition obviously in itself of no small importance in its bearing on the future well-being of the community, were such as naturally to call for postponement of the original plans for the Gas Industry's holding the exhibition. However, it is now in full swing. On its merits it is drawing the people; it will, we feel sure, be a remarkable success. The Industry's Kitchen Planning Exhibition, which has the full support of the Ministry of Works and the Ministry of Fuel and Power, was opened on Monday of this week by Lord Woolton, and it will remain open to the public till March 3 next. The Exhibition, ambitious in idea, strikingly vivid in presentation, yet at the same time demonstrating not just a dream but practical achievement, comprehensive and compact, is being held in the centre of the Metropolis at Dorland Hall, Lower Regent Street. We think the keynote of the exhibition is its arresting modernity; it is a colourful show, thoroughly alive, explaining in refreshing way what the housewife can have on the word "go." It sets a very high standard in the art of demonstration; in present circumstances it is a valuable and an invigorating tonic. Some of the gas and smokeless solid fuel appliances shown are new; most are of the immediate pre-war pattern; all fit in with the new ideas of unit planning, rational plumbing, and house construction to meet future needs.

Catholicity

The Dorland Hall demonstration goes far beyond what has been the general run of gas exhibitions of the past. It is not just what we may call a gas show. On the contrary it is a collaborative exhibit, skilfully arranged, indicating how gas and coke fit into a better, brighter, cleaner, and more labour-saving home life; how gas and coke can in the practical modern home enhance the attractiveness of its planning, and provide economically and unobtrusively an extremely high standard of service in food preservation and cooking, warming and hot-water supply, and domestic laundry. The catholicity of the exhibition appeals to us very much indeed; it is truly a demonstration of "Kitchens for All." There are large and small "package" kitchens for flats in converted houses; a "living-room kitchen" for a house in the country or suburbs; a back-to-back kitchen and bathroom designed for new blocks of flats; a new kitchen for a detached or semi-detached suburban house; a kitchen with unit furniture and equipment for a house which enjoys or may perhaps enjoy domestic help. Standard units of kitchen furniture, mass-produced in a variety of materials—timber, steel, aluminium, and so on—incorporating different arrangements of gas equipment are shown; and the "package" kitchens, prefabricated, can be delivered in one or two parts, ready for quick assembly. Primarily intended for the conversion of existing houses, they obviously are applicable to the one-room or two-room flat, and they are fully adequate for the cooking required for a family of four.

We shall refer later to the exhibition; in this brief survey we would mention a prefabricated hot-water supply unit designed for the requirements of a small house. The lower component of this unit contains a coke boiler and a hot-water cylinder of ample capacity; above is a linen cupboard and the cold water storage tank. Each component corresponds with storey height, and brackets for the support of floor constructions can be secured to the uprights of the hot-water supply system, each upright being capable of supporting 130 sq.ft. of normal floor construction. To complete the unit, which has been designed for the London and Counties Coke Association, there is in the lower component a gas circulator for hot water supply during the summer months. A special feature, too, is made of the latest type of prefabricated plumbing unit, extended to serve a lavatory basin in an adjoining bedroom and an additional sink in the utility room; included are gas supply pipes and a gas water-heating unit. The whole unit is assembled in the factory.

We found very interesting an educative display showing how the fuel services of the home can and should be planned from the start, and indicating costs—the aim being an adequate fuel service for all needs at a cost within the normal budget. Five typical three-bedroom houses are pictured showing how gas and coke provide a completely modern fuel service. It is assumed that the houses will be occupied by a family consisting of two adults and two children. Each house has a gas cooker, gas wash boiler, and gas fires in the bedrooms; the differences lie in the methods of heating the living room and getting hot water. Fuel consumption and cost figures are set out from a 55 cwt. coke plus 170 therms of gas combination to all-gas equipment using 525 therms. People undoubtedly are seeking information of this type, and the display is attracting intelligent attention.

Banbury Works Raid Damage

The embargo on reports of air raids during the early part of the war is now removed, and we learn from the Banbury Gas Company that on Oct. 3, 1940, Banbury had a sharp raid from a single German plane. Only 14 bombs were dropped, but six of them struck the Gas-Works, where considerable damage was done. There were direct hits on two of the three gasholders, which were demolished, and on the building housing the purifiers. The remaining holder, a small one, was holed by fragments and by debris. The result was to deprive the Company of over 80% of its effective storage capacity, and two-fifths of the purifying plant was put out of action. The residence of the Manager, Mr. W. R. Day, and the offices were damaged.

The effect in the town of the damage to the works was immediate, as all supply stopped with the destruction of the trunk mains in front of the offices. The supply of gas was restored in six days, but it was 12 months before the small holder was able to be put into commission again.

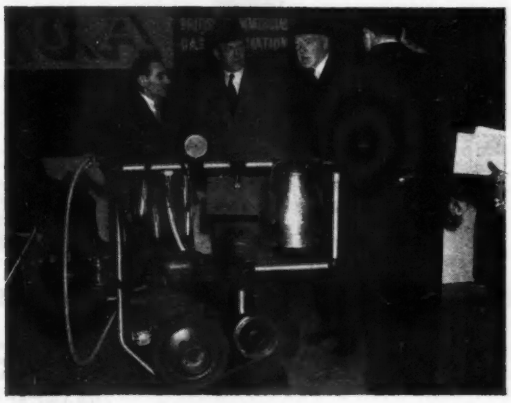
Edinburgh's Temporary Houses

Edinburgh Town Council debated for over an hour on Feb. 1 whether to adhere to the Council agreement to install gas appliances in temporary housing or to revert to the Housing Committee's decision in favour of electrical appliances. Raising the matter Mr. Coltart said that they resented the interference of the Public Utilities Committee and wished to make the 810 houses, as an experiment, all-electric. Supporters for the provision of gas cookers, wash boilers, and refrigerators claimed that the overwhelming support of the public in the city for gas appliances indicated that they favoured these. By 24 votes to 22 the decision to install gas appliances was approved.

The Corporation Housing Committee has decided that the temporary houses which are to be built at Muirhouse, West Hilton, and Sighthill will be fitted with gas appliances.

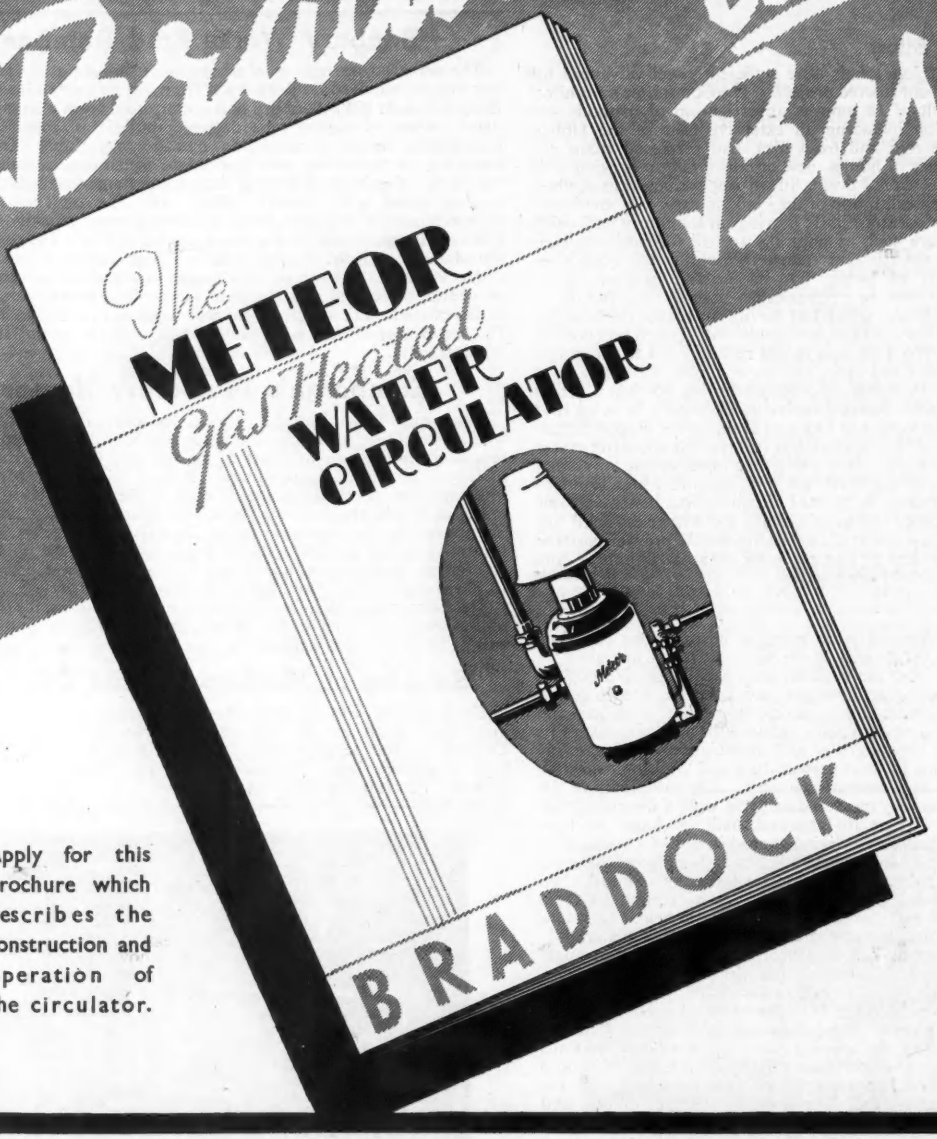
Salaries of Municipal Chief Officials

The following Gas Undertakings have agreed to the proposal for joint negotiation of Gas engineers' salaries between the Whitley Council for the locality and the Association of Municipal Chief Gas Engineers and Managers: Aston-in-Makerfield; Hindley; Millom; Penrith; Thornton Cleveleys.



The National Farmers' Union's Crop Drying Conference and Exhibition was opened by the Minister of Food, Colonel J. J. Llewellin, at the Royal Horticultural Hall, London, last month. Our photograph shows Col. Llewellin examining a gas-driven milking machine with Mr. A. G. Holtam, Distribution Engineer and Manager, Cheltenham and District Gas Company.

Braddock's are Best



Apply for this brochure which describes the construction and operation of the circulator.

J. & J. BRADDOCK

(BRANCH OF METERS LTD.)

LONDON - Telephone No.: Mitcham 2121 OLDHAM - Telephone No.: MAIn 3815/6/7

WOLVERHAMPTON - Telephone No.: Wolver. 23189

Leeds Gas Estimates

The relaxation of the security ban on the publication of the working results of public utilities makes it possible to refer to the annual estimates recently submitted to the Leeds Gas Committee, which show the gas undertaking to be in a very healthy state. The period from 1937 to 1945 has been one of continued progress with the exception of 1939–40, when a deficit was recorded. In the last complete pre-war year, 1937–38, there was a surplus of £27,345, of which £9,885 was devoted to relief of rates and £17,460 was carried to reserve. For the year ending Mar. 31, 1945, it is estimated that the surplus will be £13,040.

The estimates for the year ending Mar. 31, 1946, at first look disappointing, as they show a deficit, but the details reveal that contributions to capital include the provision of new plant which has been held up by the exigencies of war, but which has now been authorized by the Ministry of Fuel and Power. Instead of seeking borrowing powers it is proposed to pay for these installations out of revenue. They comprise : New coke cutting plant and band conveyor, £4,705; coke screening plant and bunkers, £8,700; carburetted water gas plant, £30,000; high pressure storage plants at Moortown, £18,500, and at Beckett Park, £9,000, making a total of £70,905.

The Government issued instructions to make more carburetted water gas, and as recompense for the high cost of gas oil gave a subsidy which in the past year amounted to £20,000. According to present arrangements this subsidy ceases on Mar. 31 next, but there is a likelihood of its being continued for a further period.

Items which will contribute to the estimated deficit in the coming financial year are increased cost of coal, wages, and repairs. In this connexion it is pointed out that the price of gas at Leeds has been only slightly increased since the beginning of the war, and the tariff compares favourably with that of most undertakings. It is the ambition of the Gas Committee not to increase the price of gas further unless it becomes absolutely essential.

Steam Economy

The "Boiler House Practice" film produced early last year by the Ministry of Information at the request of the Ministry of Fuel and Power to demonstrate the possibilities of greater fuel economy in steam generation has now been followed by "Steam," a two-reel film designed to indicate the principal methods of saving steam, and to encourage all steam users to take immediate action to cut down the amount of steam used. The film, which is essentially practical, and should prove of value to operatives and managers alike, contrasts good and bad practice in steam utilization, and emphasizes the importance of eliminating leakages, good insulation, efficient trapping systems, air venting steam heating apparatus, using low pressure steam for process work, and recovering heat in condensate and flash steam. The story and spoken commentary is by Mr. S. N. Duguid, the film is produced by Mr. G. Wynn, and the scenes are from works in North-West England.

At a pre-release view of the film in the Ministry of Information film theatre on Jan. 22, Sir John Dalton, London Regional Controller, said last year's fuel economy campaign was so successful that coal stocks in the autumn were better than had been expected. War needs, severe weather, and labour problems had, however, recently necessitated further economies, and he hoped steam users would revive their armies of fuel watchers and reduce steam consumption to a minimum. Mr. Oliver Lyle, Chairman of the Steam Utilization Panel of the Fuel Efficiency Committee, also urged that the lessons illustrated in the new film should be brought to the notice of all who could contribute to more efficient utilization.

As in the case of the "Boiler House Practice" film, which was shown to the Southern Association of Gas Engineers and Managers (Eastern District) last November, "Steam" will be available within a few days for exhibition at works canteens, technical institutes, &c., so that the men directly responsible for steam plant, as well as the management, may learn its lessons. Applications for the film to be shown should be made to the Ministry of Information or the Ministry of Fuel and Power, and copies are available at the film libraries.

Dividends

The Commercial Gas Company has been unable to recommend dividends on the Ordinary or Preference Stocks of the Company for the year ended Dec. 31 last.

Liverpool Gas Company.—Final dividend on the ordinary stock of 3%, less tax, making 5½% for the year. The net profit for the year 1944 was £117,392, compared with £145,346 for 1943.

Romford Gas Company.—The Directors recommend a final dividend on the ordinary shares of 3½% actual (making 6% for the year to Dec. 31, 1944), payable, less income tax, on Mar. 1.

The South Metropolitan Gas Company are recommending, after payment of interest on the Debenture Stocks and full dividends on the Preference Stocks, a dividend of 2% on the Ordinary Stock for the year ended Dec. 31, 1944 (against 3% last year). Meeting Feb. 28.

Damage was caused to gas service pipes in Portobello when a section of the promenade collapsed under the fury of a gale and abnormally high tides. The damage, though not drastic, was difficult to repair, as streets were under six inches of water.

Concrete and its Uses in post-war building was the subject of an Exhibition opened in the Scottish Building Centre, Glasgow, on Jan. 25, by the Lord Provost of Glasgow. The Exhibition, which is being held in co-operation with the Cement and Concrete Association, consists of selected photographs and drawings relating to research and education and to the uses of concrete in post-war building schemes. The Exhibition was on view in Glasgow on Jan. 25 and 26, and was shown in Edinburgh on Jan. 29.

The Spring General Meeting of the Southern Association of Gas Engineers and Managers will be held on May 3 at Grosvenor House, Park Lane, London, at 2.30 p.m., when Mr. A. E. Sylvester, Managing Director of the Gas Light and Coke Company, will give an Address. A Committee Meeting will be held at 11.30 a.m.

Publicity emanating from the other side of the Atlantic has, according to the British Thomson-Houston Co., Ltd., tended to belittle the work done in this country in connexion with jet propulsion for aircraft, and to give the United States an undue share of the credit for its development. Britain's part in this work was described in the December issue of *BTH Activities* (referred to in the "JOURNAL" on Jan. 3), and now the British Thomson-Houston Co., Ltd., have sent us a copy of *A.E.I. News*, the house magazine of the Associated Electrical Industries, Ltd., group of companies, telling the story of Britain's efforts in greater detail.

Edinburgh Gas Department have called the attention of their consumers to the serious position which has arisen with the increased demands for gas owing to present conditions. If these conditions continue, the Department explain it may be necessary to reduce pressures to keep the gas production in step with the limited coal supplies which are coming forward. In the event of the Gas Department having to curtail supplies in the city, cooking facilities during recognized meal hours will not be affected. Consumers are strongly urged to assist the position by using as little gas as possible.

An Appeal is being made to the Ministry of Fuel and Power by the Edinburgh Corporation Public Utilities Committee to release labour for the purpose of delivering coal to domestic consumers. This action follows an indication by the Corporation Gas Department that they cannot keep up the present standard of gas supplies on the rapidly diminishing stocks of coal which they possess. It is believed that the huge demand for gas is derived from a lack of coal for heating purposes in the homes of the city, and that if the Ministry allows labour for the purpose of delivering coal, it will greatly relieve the strain at present on the Gas Department.

The Accounts of the City of Durham Gas Company for the year ended Dec. 31, 1944, show total gas sales of £34,427, and a net profit of £2,234. Since the Company's gas requirements have been purchased from coke ovens, the Directors have adopted the prudent policy of gradually writing off the value of gas-making plant which had thus become redundant. Including this year's appropriation the total amount so written off is £14,000. In addition a reserve for income tax has been created, and also a reserve for the estimated liability for war damage contribution. During the past four years the whole of the amount borrowed for the purpose of laying the gas main from the coke ovens has been repaid, and the liability for loan capital is thus reduced to £3,100. The Directors regard the present financial position of the Company as exceedingly sound, and they face the future of post-war development with confidence. Final dividends are to be paid at the rate of 5% on the original capital (making 10% for the year), 3½% on ordinary capital (making 7% for the year), and 2% on the preference capital (making 4% for the year).

An Historical Display comprising eight panels of photographic enlargements with colour surrounds, showing the medieval and eighteenth century methods of munition making, glass blowing, laundry work, bakery, science, and medicine, has been presented by the Women's Gas Council to the three Women's Services, to the National Association of Training Corps for Girls, and to the Army Bureau of Current Affairs, for circulation among the Army. How gas does it to-day is shown in contrast to the original methods. These historical pictures are both instructive and amusing, and are taken from authentic period prints. One showing George the Third's coach is entitled "Jeep, 1769." The time of Queen Elizabeth provides details of clothes washing, forging weapons of war, early medical research, and the first base hospitals; while even earlier times are conjured up by blowers of glass during the Wars of the Roses. These displays will be sent out to the Middle East as well as circulated throughout this country, and will probably be sent to Western Europe.

The fact that goods made of raw materials in short supply owing to war conditions are advertised in the "Journal" should not be taken as an indication that they are necessarily available for export.

"3 YEARS' HEAVY USE

—never needed cleaning adjusting or attention of any description..."

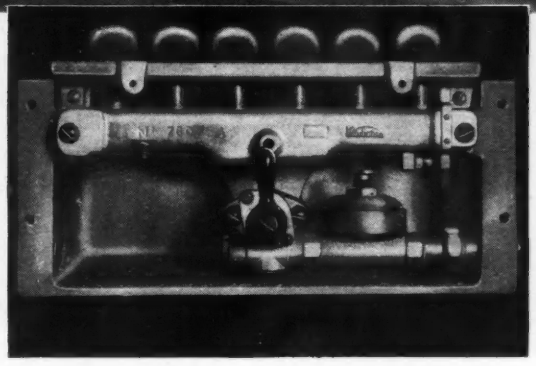
A Gas Engineer of wide experience writes of the "Silent Beam":

"I have taken particular interest in this design since its placing on the market. I have had one in use for some three years in an all-gas flat, and it has had heavy use, particularly during the winter months. During this period it has never needed cleaning, adjusting or attention of any description, and in my opinion is the ideal gas fire of the future. All the troubles experienced with earlier models are absent —blockage of the burners with dust, etc.—needing attention and adjustment at least every six months, discoloration of radiants causing loss of radiant heat, and pressure and C.V. variations causing differences in efficiency.

Incidentally, the general belief of the public that a gas fire causes a feeling of 'burning' at the front and 'coldness' at the back, when sitting in front of a gas fire, seems to be entirely absent with the Silent Beam."

VISIT THE
KITCHEN PLANNING EXHIBITION
DORLAND HALL
LONDON, S.W.1
6 FEB.—3 MAR.

"SILENT BEAM"
GAS FIRES



1 Silent in operation.

2 A definite heat output is determined by correct jet size and governed gas supply. No need for regulation after initial setting.

3 Radiant heat, rich in beneficial short infra-red rays, gives comfortable warmth.

4 Burners will not choke nor light back.

5 Negligible maintenance.

Radiation Ltd.

RADIATION HOUSE, ASTON, BIRMINGHAM, 6

SHOWROOMS & LONDON OFFICE: 7, STRATFORD PLACE, W.1

LARGE-SCALE APPARATUS FOR THE COOKING AND SERVING OF FOOD

A corner of the Service side of an extensive Canteen. An Installation by

Visit the
KITCHEN PLANNING EXHIBITION
Dorland Hall
LONDON, S.W.1
Feb. 6 to March 3

R. & A. MAIN LIMITED MAIN **LONDON AND FALKIRK**

Removal of Organic Sulphur Compounds from Town Gas*

By J. A. TOMES, Stourbridge Gas Department

FOR industrial purposes there are two ways of removing from town gas sulphur compounds other than H_2S:

(a) *Adsorption by Activated Carbon.*—This method is too well known to justify elaboration. It is only possible to obtain lower sulphur contents than the catalytic method for relatively short periods after regeneration of the adsorbent. For the small works the use of activated carbon suffers from the disadvantage of intermittent operation, need for steam-raising plant, and disposal of the benzole produced.

(b) *Conversion of the Sulphur Compounds by the Use of a Catalyst into other sulphur compounds which admit of easy removal*—e.g., *H_2S or SO_2.*—This method appears at present to offer the greatest potentialities for further development in industrial plants. So far only two processes are available, those developed by W. C. Holmes & Co., Ltd., and by the Gas Light and Coke Company.

The writer intends to refer only to plants at work in the Stourbridge area which have been installed by Messrs. W. C. Holmes. In these, conversion of the sulphur compounds to H_2S takes place. The main advantages of the catalytic method are: (*a*) continuous operation, and (*b*) absence of manual control over relatively long periods—*i.e.*, until regeneration of catalyst or changing of oxide is necessary. A disadvantage is that means must be provided to raise the catalyst to its working temperature.

For many years it has been known that organic sulphur compounds —*e.g.*, CS_2—could be converted into H_2S by passing the gas over a suitable catalyst after raising the temperature of the gas to an extent sufficient for the reaction to take place. In theory the mechanism of the reaction is hydrogenation—

$$CS_2 + 2H_2 = C + 2H_2S.$$

It has been found that certain catalysts enable this reaction to reach completion at temperatures much lower than would otherwise be required. Much work in this sphere has been carried out by the petroleum industry in America, which utilizes catalytic methods for desulphurizing its gasoline. This process was later applied in this country for the production of low sulphur content benzole, and it was a natural step to apply it to coal gas.

The chief sulphur compounds normally encountered in coal gas are carbon bisulphide (CS_2), thiophen (C_4H_4S), carbonyl sulphide or carbonoxysulphide (COS), and mercaptan bodies. Of these, CS_2 and COS are almost completely converted to H_2S by catalytic treatment, while thiophen and mercaptans are destroyed only to the extent of about 10–30% of their total present in the gas. Thus, the efficiency of removal is dependent primarily, not on the amount, but on the nature of the sulphur compounds in the gas.

The sulphuretted hydrogen formed is removed by the use of iron oxide.

The catalyst requires regeneration when the efficiency of sulphur removal begins to fall off, this being due to deposits of carbon as a result of the above reaction. Regeneration of the catalyst is effected by burning off this carbon under conditions of controlled oxidation, the reaction being highly exothermic and requiring close control. It is understood that for small industrial plants work is proceeding on the regeneration *in situ* of the catalyst.

Process Developed by W. C. Holmes & Co.

The forerunner of the plants now at work in this area was installed at another glass works belonging to one of the Stourbridge Companies. The plant is designed for a consumption of 300 cu.ft. per hour only, being used solely for edge fusion. There are two main units, the converter and the purifier, arranged in that order in the gas stream. Embodied in the converter is a heat exchanger through which the gas first passes.

As first arranged, the gas firing provided in the converter for raising the catalyst to its working temperature was upward heating outside the heat exchanger shell—*i.e.*, the flue gases and gas being heated were flowing concurrent. It was found that fuel gas consumption was excessive and the firing was changed on site to downward heating—*i.e.*, flue gases and heated gas flowing counter-current, and the heat was put into the converter where it was required, namely, near the catalyst bed. The new firing was affected by putting burners into the old flue holes, and a new extension piece was fitted to the base of the converter heating jacket and a chimney attached.

The plant is fundamentally similar to the later and larger types to be described, and which have superseded this design. The plant is still working satisfactorily after 16 months' operation.

Results obtained with down-heating were as follows:

The plant is in use about 4½ to 6 hours per diem only.
Gas required to heat up from cold—100 cu.ft. Time, 1½ hours.
Gas used for maintaining catalyst at 350°C., and chimney with plant at work, 40 cu.ft. per hour.
Life of oxide, 14 months.
Life of catalyst, 6 months before regeneration is necessary (two charges purchased, both still quite efficient).
Gas rate through plant, about 200 cu.ft. per hour.

Sulphur in gas, grains per 100 cu.ft.					
	inlet	22.3	24.3	35.4	36.0
Ditto	outlet	6.8	5.9	7.9	9.4
% removed		69.5	75.8	77.7	73.9

The town gas supplied to the plant was produced in horizontal retorts. If the results are compared with those given later which were obtained on gas from continuous verticals, it will be noted that the sulphur content on the outlet of the plant is higher with horizontal than continuous vertical gas. This is due to the higher thiophen content of the gas from horizontals.

Of the latest plants, two are at work in this area at present, having capacities of 2,000 and 4,000 cu.ft. per hour respectively, while a third, of 2,000 cu.ft. per hour, is being installed.

The plant consists of the following items: Booster, converter, atmospheric coolers, and purifier, and may logically be considered in this order.

The booster is provided at the inlet of the converter, which is capable of raising the gas pressure to something in the order of 8 in. water gauge. This is provided to overcome the back pressure thrown by the plant and to allow for all contingencies which may arise—*e.g.*, the plant may be installed in areas where the district pressure at times becomes abnormally low, or it may be called upon to work at very high throughputs which would result in a higher back pressure being thrown.

The gas passes from the booster to the converter, which may be regarded as fulfilling two functions, that of a heat exchanger and that of a catalyst chamber. In this process the gas is preheated to a temperature of about 350°C. before passing through the catalytic mass, and to accomplish this the gas is preheated in the course of its travel through tubes of the heat exchanger by gas leaving the catalyst. The temperature is then further raised to that required for the reaction —namely, 350°C.—by travelling around the outer jacket of the annular catalyst vessel, which is heated by gas burned in a ring burner at the base of the combustion chamber surrounding the catalyst. The gas used at the burners is supplied from a point at the outlet of the purifiers—*i.e.*, desulphurized gas—and passes through a pressure regulator. The rate of gas supplied to the burners is also controlled by a thermostat situated in the gas space at the inlet to the catalyst. It is provided with by-pass and pilot light. The products of combustion pass round the catalyst vessel and the outside of the heat exchanger, leaving at the flue outlet. The gas, after passing through the catalyst bed, which is annular in shape, travels through the tubes of the heat exchanger and leaves at the top of the converter on its way to atmospheric coolers.

The catalyst, which was initiated by Dr. E. B. Maxted, of the University of Bristol, consists of a bauxite support impregnated with the solution of a metallic thio-molybdate—*e.g.*, copper thio-molybdate.

The plants are designed to work at a space velocity of 2,000 hours where space velocity $= \frac{\text{cu.ft./hour of gas passing}}{\text{cu.ft. of catalyst}}$. For example, a plant built to handle 4,000 cu.ft. per hour contains $\frac{4,000}{2,000} = 2$ cu.ft. of catalyst. Similarly 2,000 cu.ft. per hour = 1 cu.ft. of catalyst.

The catalyst vessel is an annulus made of perforated metal plates, into which the catalyst is charged through a charging hopper and down a shaft in the centre of the heat exchanger. When regeneration becomes necessary it is emptied through a discharging flange at the base of the converter by raising a valve by means of a handwheel provided at the top. The life of the catalyst has been found to vary with conditions incidental to the plant.

The gas entering the coolers is normally at a temperature of about 50°C., and is further cooled to about 15° to 20°C. prior to oxide or iron purification. The coolers consist of C.I. radiators over which air is blown by an electric fan situated underneath. The purifier contains two tiers of oxide, gas entering at the base and leaving at the top.

Summary of Results Obtained

(*a*) Plant capacity—4,000 cu.ft. per hour.

Time taken to get to temperature, from cold, required for the reaction is dependent on the throughput of gas. Within limits the higher the throughput the lower the time taken—*e.g.*, at 2,000 cu.ft. per hour throughput, time taken = 2½ hours and gas consumption = 350 cu.ft. Normally, however, the catalyst is maintained at 350°C. when the plant is not at work. (Consumption under adverse weather conditions—60 cu.ft. per hour.)

* From a Paper to the Midland Junior Gas Association.

Gas throughput.	Burner cons. per hour.	Cat. temp.	B.P. across plant.	Inlet sulphur.	Outlet sulphur.	% removed.
2,380	67	333	1.0 in.	24.0	2.63	89.0
1,950	65	338	1.2 ,,	25.0	2.68	89.3
2,200	60	333	1.2 ,,	23.3	2.80	88.0
3,890	75	320	2.4 ,,	23.8	2.7	88.7

(*b*) Plant capacity—2,000 cu.ft. per hour.

Time taken to reach temperature 4½ hours with throughput (low) 60 cu.ft. per hour gas consumption = 520 cu.ft.

Gas throughput.	Burner cons. per hour.	Cat. temp.	B.P. across plant.	Inlet sulphur.	Outlet sulphur.	% removed.
1,010	50	348	0.8 in.	22.1	2.8	87.3
1,490	65	335	1.1 ,,	25.0	2.6	89.6
2,025	67	330	1.9 ,,	24.4	3.3	86.5

Estimated Economics of the Process

Assumptions.

Capacity of plant—4,000 cu. ft. per hour.
Throughput of gas—4,000 cu.ft. per hour.
Price of gas—7d. per therm.
Price of electricity—½d. per unit.
Labour—2s. per hour.
Plant working week—
(*a*) 90 hours (plant off at week-end) } 50 weeks
(*b*) 168 hours } per annum.

Capital cost—£1,000.
Int. and depreciation—10% (*i.e.* £100 per annum).

Estimated figures (*Makers'*).

(*a*) Oxide—10 cwt. per annum at 50s. per ton=25s.
Labour for changing 10 hours=20s. } Total 45s.
(*b*) Oxide and labour +40%=63s.
(*a*) Catalyst—replacement and regeneration—£3 per annum.
(*b*) ,, ,, ,, +40%=84s.

Operating costs (in pence).

	(*a*) Per week.	(*a*) Per hour.	(*b*) Per week.	(*b*) Per hour.
Fuel gas—plant on—75 cu.ft./hr.	212.62	2.36	396.90	2.36
off—60 cu.ft./hour (30 hrs./week + 350 cu.ft. heating up)	67.72	0.75	...	...
Thermal loss due to H_2 combustion (assuming 0.5% O_2)—27 cu.ft./hour	76.54	0.85	142.88	0.85
Electricity 0.25 unit/hour	11.25	0.12	21.00	0.12
Catalyst	14.40	0.16	20.16	0.12
Oxide and labour	10.80	0.12	15.12	0.09
Supervision—negligible	...	...	...	...
Total operating cost	393.33	4.36	596.06	3.54
Capital charges	480.00	5.33	480.00	2.86
Total cost	873.33	9.69	1,076.06	6.40

Cost per therm.

	(*a*)	(*b*)
Operating costs	0.242	0.197
Capital charges	0.296	0.159
Total cost per therm	0.538	0.356

The figures are calculated on the assumption that the plant is worked at its rated capacity during the hours that it is at work.

The cost per hour on a 90-hour week is thus approximately 9¾d., and on a 168 hour week almost 6½d. To offset this, the works estimate that they are saving (1) approximately 2% of the cost of the article by the avoidance of the handling which is necessary when acid washing; (2) the labour in a polishing department is cut out altogether for plain ware; (3) they have no defective ware due to bloom; and, further (4), the appearance on the surface of an article which has not been acid washed is considerably better than one that has been, so that a better quality ware is produced. It will thus be seen how infinitesimal is the cost per hour against the saving to be effected when viewed from the manufacturer's point of view.

Repairing Refractories in Verticals

The following is a report of the discussion on the Paper by Mr. J. N. Shorrock, of the Birmingham Gas Department, to the Midland Junior Gas Association—see "JOURNAL," Jan. 24, p. 114:

Mr. **V. H. Deacon** (Birmingham) said he had some experience of the phosphoric acid mixture and he could strongly recommend it. It was excellent stuff to use, and as far as they could see from practical application, it was going to be very satisfactory. The question of what was required in a cement had been gone into, but it was quite clear that no cement would do all the jobs with which they had to deal, and that was a mistake that was made in the design of retorts to-day. There were such different conditions in the top and bottom of the silica belt of a vertical retort that he was sure they would have to use different cements for the different positions.

Mr. **F. N. Tidball** (Cannock) said nearly all of them had to rely upon proprietary cements for these spraying processes, and when it came to dealing with different temperature belts they had to take the makers' word for what could be done with a particular cement. The cement used at his works was in three grades, and was used at three different temperatures. They were not told what it was. It went on all right, but they could not get it to fuse, although they thought they were using the right grade for the right temperature. In his case there had to be spraying of retorts, generally joints, between charges, and what was wanted was a cement that would vitrify in, say, 20 minutes.

Mr. **Shorrock** said it had been found that the addition of 3% of phosphoric acid was advantageous, but he would hesitate to say what would be the effect in a particular case, because he did not know the mixture. It was advisable to make a small preliminary test first and, of course, they had to take risks when they were making additions to any particular cement.

Mr. **E. T. Pickering** (Birmingham) said he wondered how far a cement should be modified, having regard to the coals that were used. The different ashes must have a considerable effect upon joints. He asked if there were certain coals which they should avoid. He knew that fusion points and the composition of ashes varied very greatly.

Mr. **Shorrock** said there were of course some coals which should be avoided, and sometimes disastrous results were seen apparently due to the use of low-fusion coals. They had not got to the stage, however, where they could say such and such a coal should be avoided. A coal with a low fusion point ash of say 1,000°C. or 1,050°C. should be avoided if possible.

Mr. **Pickering:** Is it only fusion point, or does chemical composition enter into the question?

Mr. **Shorrock** said the percentage of iron had a great deal to do with it. He did not think that much work had been done on this aspect of choice of coals, but they could work out whether a special ash would be bad for a particular cement. This was certainly a viewpoint that might well be investigated.

Mr. **Cranmer** (Willenhall) asked if there had been any experience with the dry patching of comparatively new retorts, by putting in dry cement and keeping it under pressure so that the powder was carried through to the minute holes that developed, and adhered to the sides of the walls, thus building them up again. It seemed to him there was much in prevention being better than cure.

Mr. **Shorrock** said he was not aware of such a method of using dry powder. The use of water was theoretically unsound, and dry powder would undoubtedly be superior if there was a successful method of using it.

Mr. **Cranmer** said he was referring to a job being done while the retort was at scurfing temperature, not cold.

Mr. **Shorrock** said that unless a fusible material was used endangering the refractories, it appeared doubtful if adhesion would take place without higher temperature.

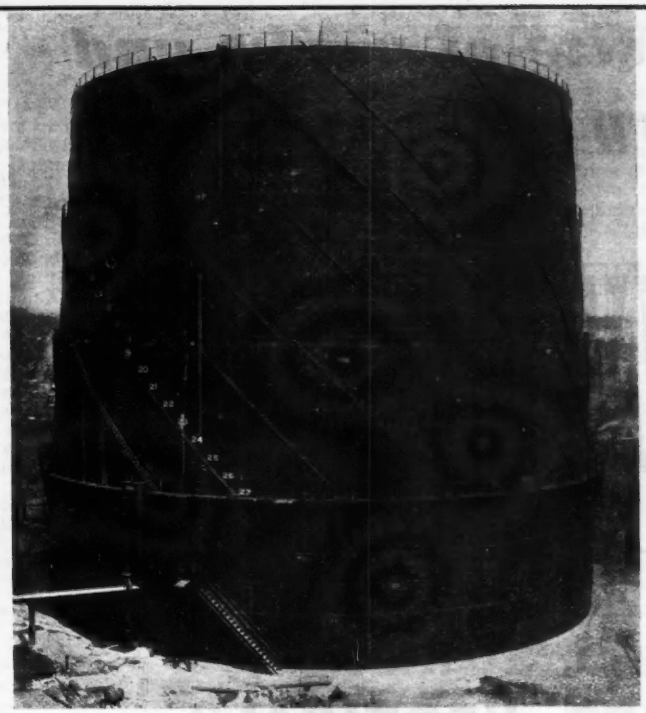
Mr. **S. C. Bentley** (Oxford) proposed a vote of thanks to the Author, and Mr. **H. J. Reynolds** (Wolverhampton) seconded.

Edinburgh Corporation Gas Department, it was stated by Mr. D. D. Melvin, Deputy Manager, when he spoke at the conclusion of a two nights' show given under the auspices of the Department in aid of their Fund, have sent over 2,100 gifts to the Forces serving overseas. The Department, he said, had 178 employees in the Armed Forces. Eleven of their former employees had been killed, 3 were missing, and 7 were prisoners of war.

The Minister of Supply has made the Control of Industrial Electrical Equipment (No. 3) Order, 1945, which came into force on Feb. 1. This Order exempts the acquisition and disposal of all *used* industrial electrical equipment from the licensing requirements imposed by the Control of Industrial Electrical Equipment (No. 1) Order, 1943 (S. R. & O. 1943, No. 533), and as varied byt he Control of Industrial Electrical Equipment (No. 2) Order, 1943 (S. R. & O. 1943, No. 1537). The exemption covers used equipment only. Licensing requirements will continue to apply to new industrial electrical equipment. Copies of the Order, the Control of Industrial Electrical Equipment (No. 3) Order, may be obtained from H.M. Stationery Office, York House, Kingsway, W.C. 2, or through any bookseller, price 1d.

A Fire broke out at Shirebrook Gas-Works on Jan. 20 as a result of one of the worst gales experienced in the district for 15 years. A flag pole above the works was brought down by wind and fell through the roof. Part of the roof collapsed and fractured a gas-works main.

Steps have been taken to obtain more information about the performance of shell-type boilers and their firing equipment, both in relation to the war effort, and as a means of improving the performance of industrial steam-raising plant after the war. A Committee has been formed by the British Coal Utilization Research Association, in co-operation with the Fuel Efficiency Committee of the Ministry of Fuel and Power, to investigate and report upon methods of improving the performance of industrial boilers. This Committee is under the Chairmanship of Mr. W. L. Boon, its Vice-Chairman is Dr. E. S. Grumell, and its members are representative of the Coal Industry, the Shell Boilermakers' Association, the Stoker and Furnace Makers' Association, and various Government Departments, including the Ministry of Fuel and Power. The Committee has drawn up a programme of research covering fuels, firing appliances, and boilers, which is being conducted at the Royal Arsenal, Woolwich, and in institutions and industrial plants throughout the country.



CAPACITY 1,000,000 CUBIC FEET.

GAS HOLDERS

WITH OR WITHOUT

STEEL TANKS

WITH

GUIDE FRAMING

OR

SPIRAL GUIDED

WITH

MILBOURNE PATENT SELF LUBRICATING ROLLER CARRIAGES

AND

MILCOT PATENT LADDER

WATERLESS (KLONNE) GASHOLDERS
HIGH PRESSURE GASHOLDERS

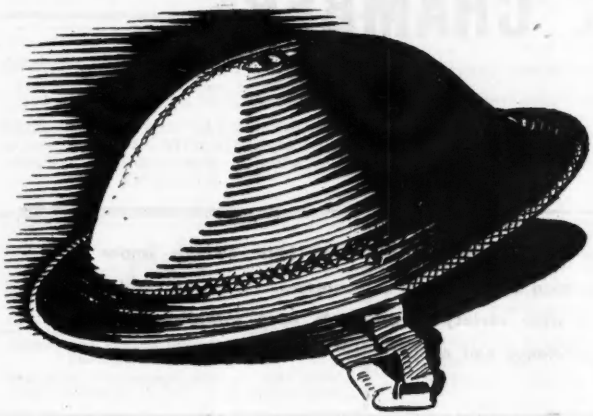
RIVETED OR ELECTRICALLY WELDED

C. & W. WALKER LTD.

DONNINGTON
WELLINGTON—SHROPSHIRE

'Phone : Wellington-Shropshire 12.
'Grams : "Fortress," Donnington, Shropshire.

LONDON OFFICE - Temporary Address : DONNINGTON, WELLINGTON, SHROPSHIRE.



PROTECTION..

THE STEEL HELMET—more familiarly known as the "Tin Hat" has, since its inception, been the means of saving hundreds and thousands of lives. Its protective qualities are too well known to be enlarged upon. The Gas Meter—in particular the A. & M. Meter—has been the means of safeguarding the Gas Engineer from many complaints about gas consumption which otherwise would have descended upon his unprotected head.

your *protection* is the

"A&M" METER

ALDER & MACKAY LTD., NEW GRANGE WORKS, EDINBURGH, 11.

For every size of works and every class of coal...

WEST'S

CARBONIZING PLANTS

GLOVER-WEST VERTICALS

WESTVERTICAL CHAMBERS

440 carbonizing plants have been built or are under construction by West's in 24 countries. Working results from a wide variety of gas coals have established the high efficiency and adaptability of the West systems.

WEST'S

GAS IMPROVEMENT CO · LTD ·

MILES PLATTING MANCHESTER 10

TELEPHONE—COLLYHURST 2961-2-3-4-5 TELEGRAMS—STOKER MANCHESTER

LONDON OFFICE: COLUMBIA HOUSE, ALDWYCH, W.C.2 TELEPHONE: HOLBORN 4108-9 TELEGRAMS: WESGASCO ESTRAND

GAS PRODUCTS PRICES

The London Market Feb. 5.

There are no changes to report in the prices of Coal Tar Products.

A Government Order came into effect on March 1 controlling the price of Benzole and Coal Spirit and replacing the Control of Coal Tar Naphtha and Xylole Order, 1943.

The Order is known as the Control of Benzole and Coal Spirit Order, 1944 (S.R. & O. 1944, No. 172).*

By this Order the price of Motor Benzole is fixed at 2s. per gallon. The Order also lays down the method of evaluating Crude Benzole.

The Order also calls for periodical returns to the Ministry of Fuel and Power from all producers of Crude and Refined Benzole.

In connexion with the Coal Tar Products market, the Government Order designated the Control of Toluene (No. 4) Order, 1944 (S. R. & O. 1944, No. 170), contains an amendment of the Control of Toluene (No. 3) Order, 1943.

Attention is called to a new Government Order, which amends the price of Toluene as from Sept. 1, 1944. The Order is entitled, The Control of Benzole and Coal Spirit (No. 2) Order, 1944 (S. R. & O., No. 988).

The only change in connexion with the prices of Coal Tar Products refers to Naphthalene. A new Government Order, entitled the Coal Tar Products Prices (No. 2) Order, 1944 (S. R. & O., 1944, No. 1051), allows increases in the maximum prices for all forms of Naphthalene. The new Order came into force on Sept. 22, 1944.

* Slightly amended by Control of Benzole and Coal Spirit (No. 2) Order, 1944, which amendments came into force on Oct. 1.

The Provinces Feb. 5.

The average prices of gas-works products during the week were : Pitch and Crude Tar,* Toluole, naked, North, 90's, 2s. to 2s. 2½d., pure, 2s. 9d. (now controlled by S. R. & O. 1944, No. 988, operative from Sept. 1, 1944. Benzole and Coal Spirit, also Coal Tar Naphtha and Xylole, are now controlled by the Control of Benzole and Coal Spirit Order, 1944, dated Feb. 18, 1944, S. R. & O. 1944, No. 172, operative from March 1, and S. R. & O. 1944, No. 988, part 1, operative from Oct. 1, 1944. Carbolic acid, 60's, anthracene, creosote oil (hydrogenation), coal tar oils (timber preservation, &c.), and strained anthracene oil controlled by the Coal Tar Products Prices Order, 1943, dated Oct. 20, 1943 (S. R. & O. 1943, No. 1528), operative from Nov. 15, 1943, Naphthalene now controlled under S. R. & O. 1944, No. 1051, operative from Sept. 22, 1944.

* In regard to pitch and crude tar prices we would ask readers to refer to the editorial note on p. 396 of the "JOURNAL" for Sept. 10, 1941.

Scotland Feb. 3.

Market continues steady. Refined tar*: Yield to Distillers is 4½d. per gallon *ex* Works, naked. Creosote oil: Timber preserving quality,* 5½d. to 6½d.; hydrogenation oil,* 5⅞d.; low gravity or virgin oil,† 7½d. to 7¾d.; benzole absorbing oil,* 6½d. to 8d. per gallon. Refined cresylic acid* is 3s. 6d. to 4s. 6d. per gallon *ex* Works, naked, according to quality. Crude naphtha†: 6½d. to 7d. per gallon. Solvent naphtha*: Basic prices delivered in bulk, 90/160 grade, 2s. 8d., and 90/190 Heavy naphtha, Unrectified, 1s. 10½d.; Rectified, 2s. 2d. per gallon. Pyridine†: 90/160 grade, 13s., and 90/140 grade, 15s. per gallon.

* Price controlled. † Uncontrolled.

TRADE CARDS

HILMOR LTD.

Tube Bending Machines (Hand and Power). Tube Bending Specialists.

Temporary Offices: London Road, Knebworth, Herts. T/N Knebworth 3179.

We can supply machines for bending Gas and Steam Piping from ¼ in. to 2 in. in the cold state.

CHARLES WINN & CO., LTD.

Granville Street, Birmingham, 1. T/N Midland 3695 (4 lines). T/A Winn, Birmingham.

BACK PRESSURE GAS VALVES, SIZES 1 in. to 12 in. FOR USE WITH AIR BLAST IN INDUSTRIAL AND OTHER GAS-HEATED APPARATUS.

Arkon

INSTRUMENTS

Gas Flow Recorders and Indicators
Pressure and Vacuum Recorders and Indicators
Full Scale or Inclined Gauges

WALKER, CROSWELLER & CO. LTD.
CHELTENHAM, GLOS. Cheltenham 5172

THOMAS GLOVER & CO., LTD.

Edmonton, London, N. 18, and Branches. Established in 1844.

. . . . FOR RELIABILITY IN METERS.

E. PASS & CO. LTD.

Denton, Lancs. T/N Denton 2038, 2561. T/A Tools Denton, Lancs.

Gas and Water Engineers.

THE UNDERPRESSURE SPECIALISTS.

FULL particulars of these spaces can be obtained on application to the Publishers. They are designed principally for the use of the firms whose display advertisements cannot be included owing to paper rationing.

NATIONAL ENAMELS LTD.

53, Norman Road, Greenwich, London, S.E.10. T/N Greenwich 2266–7.

Our COOKER LININGS, CROWN TRAYS and SPLASHBACKS have been well proved by the Gas Industry.

M. B. WILD & CO. LTD.

Mechanical Engineers, Argyle Street, Birmingham 7. T/N East 0472.

CAPSTANS. BY-PRODUCTS COKE OVEN MACHINERY. ELEVATORS. CONVEYORS. WAGON TIPPLERS.

THE HORSTMANN GEAR CO. LTD.

Newbridge, Bath, Somerset. T/N Bath 7241 (2 lines). T/A Horstmann, Bath.

NEWBRIDGE

CONTROLLERS, COMETS, GAS PISTOLS, AND SWITCHES.

JOHN G. STEIN & CO. LTD.

Bonnybridge, Scotland. T/N Banknock 255 (3 lines). T/A Stein, Bonnybridge.

STEIN REFRACTORIES
for
Horizontal and Vertical Gas Retorts.

ESCOL

THE SYMBOL OF SERVICE AND QUALITY

VITREOUS ENAMELS

Telegrams: Escol, Toot, London
Telephone: Mitcham 1634 (5 lines)

STEWART & GRAY LTD.
Paisley Works, Swains Road, Tooting Junction, S.W.17.

A. G. SUTHERLAND LTD.

Warwick Road, Greet, Birmingham. T/N Victoria 2184-5. T/A Metriform, Birmingham. London: Riverside Road, S.W. 17. T/N Wimbledon 5454. T/A Insituslot, Toot, London, and at Salford and Nottingham.

GAS METERS

CLAPHAM BROS. LTD.

Wellington Works, Keighley, Yorks. T/N Keighley 2787-8. T/A Clapham Bros., Keighley.

Makers of Gas-Works Equipment since 1837. Retort Fittings, Condensers, P. & A. Tar Extractors, Washers, Purifiers, Elevators, Conveyors, and Handling Plant, Tanks, C. I. Specials.

R. LAIDLAW & SON (EDINBURGH) LTD.

Simon Square Works, Edinburgh 8. T/N 42842. T/A Laidlaw, Edinburgh. London: 2, Beaumont Road, Chiswick, W. 4.

"LAIDLAW" HIGH CAPACITY METERS give maximum capacity easily. Slots convertible for shilling or penny.

GEORGE WALLER & SON LTD.

Phoenix Iron Works, Stroud, Glos. T/N Brimscombe 2210. T/A Waller, Stroud.

Specializing in GAS EXHAUSTING MACHINERY, GAS COMPRESSOR and BOOSTING PLANT, GAS GOVERNORS, GAS VALVES, COKE BREAKERS, PAN ASH SEPARATORS.

GAS STOCKS AND SHARES

There was no marked general activity in the stock markets last week, and some reaction in prices set in among industrials. Gilt-edged stocks, however, continued their upward movement. There was less interest in home rails, although prices held firm. Argentine rails hardened on the debenture interest arrears payments.

More business was recorded in the Gas Market than the previous week, and again there were few changes either way. A feature was the sharp rise in Portsmouth consolidated, which gained a further 10 points to 147½, the stock changing hands up to 149½. South Metropolitan ordinary reacted on the reduced dividend announcement—2% against 3% for 1943—closing 4 points lower at 90½, and Gas Light units eased 3d. to 22s. 6d. Compared with a month ago the prices in the tables below show more changes than for some time past, the majority being in an upward direction.

The following price changes occurred during the week:

OFFICIAL LIST

Gas Light Units	22/—23/-	—/3d.
Imperial Continental 3½ p.c. Red. Deb. (x.d.)	97—100	Jan. 29
Portsmouth Cons.	145—150	+10
South Metropolitan Ord.	88—93	—4
Ditto 4 p.c. Pref.	101½—104½	+½
United Kingdom Gas Corporation Ord.	22/3—23/3	+—/3d.
Ditto 4½ p.c. 2nd Non-Cum. Pref....	19/6—20/6	+1/6d.

Quotations on the London and Provincial Stock Exchanges

OFFICIAL LIST

Issue. £	When ex-Dividend.	Dividends Interest. Amnt. or Rate% Prev. Hf. Yr. Actual.	Dividends Interest. Amnt. or Rate% Last Hf. Yr. Actual.	NAME.	Quotations Feb. 1
1,767,439	Sept. 11	20/-	20/-	Alliance & Dublin Ord. ...	109—114
891,664	Oct. 23	6d.	6d.	Ascd. Gas & Water U'd'ts Ord.	22/9—23/9
388,938	,,	7¼d.	7¼d.	Do. Deferred	23/3—24/3
500,000	Sept. 4	2½	2½	Do. 4½ p.c. Red. Cum. Pref.	20/6—21/6
535,545	,,	2	2	Do. 4 p.c. Red. Cum Pref.	20/—21/-
341,966	,,	2	2	Do. 4 p.c. Irred. Cum. Pref.	18/—19/-
561,370	Aug. 14	70/-	70/-	Barnet Ord. 7 p.c. ,, ...	157—162
300,000	Oct. 9	10½d.	8¾d.	Bombay, Ltd. ,, ...	40/—42/-
690,407	Aug. 21	70/-	70/-	Bournemouth 7 p.c. max. ...	157—162
362,025	Dec. 11	2	2	Do. 4 p.c. Deb. ...	100—105
659,955	Sept. 11	45/-	25/-	Brighton, &c., 5 p.c. Con. ...	100—105
865,000	Sept. 25	60/-	60/-	Brit. Gas Light Ord.	127—132
545,000	Dec. 18	2½	2½	Do. 5½ p.c. 'B' Cum. Pref.	110—115
120,000	,,	2	2	Do. 4 p.c. Red. Deb.	94—99
10,000	Oct. 30	4/6	9/-	Cape Town, Ltd., 4½ p.c. Cu. Pf.	5½—6½
626,860	July 17	50/-	70/-	Cardiff Con. Ord.	123—128
24,500	Nov. 13	8¾d.	8¾d.	Colombo 7 p.c. Pref.	22/6—24/6
764,169	Sept. 25	4.78d.	4.78d.	Colonial Gas Assn. Ltd. Ord. ...	16/6—18/6
400,000	,,	7.649d.	7.649d.	Do. 8 p.c. Pref. ...	22/—24/-
1,748,090	July 22 '40	30/-	30/-	Commercial Ord.	67—72
620,000	Dec. 11	1½	1½	Do. 3 p.c. Deb.	72—77
286,344	Aug. 21	2½	2½	Do. 5 p.c. Deb.	110—115
807,560	,,	60/-	60/-	Croydon sliding scale	123—128
644,590	,,	50/-	50/-	Do. max. div.	106—109
620,385	Jan. 2	2½	2½	Do. 5 p.c. Perp. Deb. ...	122—127
179,500	Aug. 28	50/-	50/-	East Surrey 'B,' 5 p.c.	103—108
176,461	Dec. 27	2½	2½	Do. 5 p.c. Deb. (Irred.)...	120—125
239,135	Nov. 13	6d.	6d.	Gas Consolidation Ord. 'A' ...	22/—23/-
250,000	,,	4½	4½	Do. Ord. 'B' ...	22/3—23/3
250,000	,,	2	2	Do. 4 p.c. Red. Cum. Pref.	18/6—20/6
19,101,877	July 31	6d.	6d.	Gas Light & Coke Ord. ...	22/-—23/-a
2,600,000	,,	35/-	35/-	Do. 3½ p.c. max.	81—84
4,477,106	,,	2	2	Do. 4 p.c. Con. Pref. ...	101½—104½
2,993,000	Jan. 8	1½	1½	Do. 3½ p.c. Red. Pref. ...	100—103
8,602,497	Nov. 27	1½	1½	Do. 3 p.c. Con. Deb. ...	88—90
3,642,770	,,	2½	2½	Do. 5 p.c. Red. Deb. ...	107—110
3,500,000	,,	2½	2½	Do. 4½ p.c. Red. Deb. ...	107—110
700,000	Sept. 11	1½	1½	Do. 3½ Red. Deb. ...	98—101
5,600,000	May 13 '40	80/-	80/-	Imperial Continental Cap. ...	112—117
43,820	Jan. 29	1½	1½	Do. 3½ p.c. Red. Deb. ...	97—100
2,167,410	Aug. 21	50/-	50/-	Liverpool Ord.	119—122
231,978	,,	50/-	50/-	M.S. Utility 'C' Cons.	103—108
918,657	,,	2	2	4 p.c. Cons. Pref.	99—104
675,000	Nov. 13	‡40/-	‡40/-	Montevideo, Ltd.	89—92
300,000	Jan. 8	£4	£6	Oriental, Ltd.	145—150
368,537	Dec. 11	40/-	57/6	Plymouth & Stonehouse 5 p.c.	112—117
621,667	Aug. 14	72/6	72/6	Portsmouth & Gosport Cons.	145—150
2,381,363	May 15	†9¾d.	†9¾d.	Primitiva Holdings, Ltd. Ord.	11/—13/-
233,900	June 12	3	3	Do. 6½ p.c. Red. Cum. Pref.	97—102
648,999	Sept. 11	6½	6½	Severn Val. Gas Cor. Ld. Ord.	22/6—23/6
597,972	,, 4	2½	2½	Do. 4½ p.c. Cum. Pref. ...	21/—22/-
2,528,714	Aug. 21	6d.	3¾d.	South East'n Gas Cn. Ld. Ord.	22/—23/-
1,000,000	,,	2½	2½	Do. 4½ p.c. Red. Cum. Pref.	21/6—22/6
1,068,869	,,	2	2	Do 4 p.c. Irred. Cum. Pref.	*20/—21/-
6,709,895	Feb. 14	†20/-	†60/-	South Met. Ord.	88—93
1,135,812	Aug. 21	3	3	Do. 6 p.c. Irred. Pref. ...	128—133
850,000	,,	2	2	Do. 4 p.c. Irred. Pref. ...	101½—104½
1,895,445	Jan. 2	1½	1½	Do. 3 p.c. Perp. Deb. ...	83—87
1,000,000	,, 15	2½	2½	Do. 5 p.c. Red. Deb. ...	103—108
1,543,795	July 31	60/-	50/-	South Suburban Ord. 5 p.c ...	115—120
512,825	,,	2½	2½	Do. 5 p.c. Perp. Pref. ...	110—115
500,000	,,	2	2	Do. 4 p.c. Perp. Pref. ...	98—103
250,000	,,	1½	1½	Do. 3½ p.c. Red. Pref. ...	93—98
888,587	Dec. 11	2½	2½	Do. 5 p.c. Perp. Deb. ...	121—126
750,541	Aug. 14	60/-	50/-	Southampton Ord.	105—110
350,000	,,	2½	2½	Swansea 5½ p.c. Red. Pref. ...	103—108
1,076,495	,, 8	50/-	50/-	Tottenham & District Ord. ...	117—122
338,555	,,	2½	2½	Do. 5 p.c. Pref.	109—114
453,380	Dec. 11	2	2	Do. 4 p.c. Perp. Deb. ...	98—103
1,247,505	Nov. 6	7½d.	6d.	U. Kingdom Gas Cor. Ord. ...	22/3—23/3
1,085,952	,, 13	5¾d.	5¾d.	Do. 4½ p.c. 1st Cum. Pref.	22/—24/-
772,709	,, 13	4¾d.	4¾d.	Do. 4 p.c. 1st Red. Cum.Pref.	19/—21/-
745,263	June 19	5¾d.	5¾d.	Do. 4½ p.c. 2nd Non.Cum. Pf.	19/6—20/6
1,200,000	Sept. 18	1½	1½	Do. 3½ p.c. Red. Deb. ...	97—102
380,608	Aug. 14	66/3	66/3	Uxbridge, &c., 5 p.c.	123—128
1,371,138	July 17	50/-	50/-	Wandsworth Consolidated ...	120—125
2,525,768	,,	2	2	Do. 4 p.c. Pref.	101—104
1,343,964	Dec. 18	2½	2½	Do. 5 p.c. Deb.	122—127
383,745	,,	2	2	Do. 4 p.c. Deb.	100—105
558,342	Aug. 8	50/-	50/-	Watford & St. Albans Ord. ...	120—125

SUPPLEMENTARY LIST

Issue. £	When ex-Dividend.	Dividends Interest. Amnt. or Rate% Prev. Hf. Yr. Actual.	Dividends Interest. Amnt. or Rate% Last Hf. Yr. Actual.	NAME.	Quotations Feb. 1
351,685	Dec. 18	2½	2½	Brighton, &c., 5 p.c. Perp. Deb.	121—126
415,250	,,	2	2	Bristol Gas Co., 4 p.c. New Deb.	99—102
140,205	July 31	70/-	70/-	Cambridge, &c., 7 p.c. Cons. 'B'	140—145
295,932	Aug. 14	50/-	50/-	Cheltenham, 5 p.c. Cons.Ord....	98—103
42,500	Dec. 18	2	2	Do. 4 p.c. Perp. Deb....	98—103
150,000	Aug. 21	2	2	Croydon Gas, 4 p.c. Pref. (Irr.)	99—104
130,000	Jan. 2	2	2	Do. 4 p.c. Deb. ...	99—104
53,220	Aug. 28	3	3	East Surrey, 6 p.c. Cum. Pref....	120—125
...	Aug. 19 '40	40/-	40/-	Eastbourne, 'B' 3½ p.c.... ...	97—102
117,425	Feb. 5 '40	80/-	80/-	East Wight Cons. 5 p.c. ...	85—90
25,000	Dec. 18	2½	2½	Guildford 4½ p.c. Red. Deb. ...	100—105
156,600	Aug. 14	50/-	50/-	Hampton C't, 5 p.c. Cons. Ord.	100—105
18,000	Dec. 29 '41	3½	3½	Malta & Med'n., 7 p.c. 1st Pref.	45—50
10,845	June 30 '41	37/6	37/6	Do. 7½ p.c. 2nd Pref.	45—50
50,000	Aug. 21	52/3	52/3	Mid. South. Util., 'A' Cons. 5 p.c.	105—110
70,380	Dec. 18	2½	2½	Newport (Mon.), 5 p.c. Deb...	115—120
65,000	Aug. 14	2½	2½	North Middlesex, 5 p.c. Pref....	108—113
70,000	Sept. 11	2½	2½	Plymouth & Stone., 5 p.c. Deb.	120—125
76,501	Dec. 18	2	2	Reading, 4 p.c. Perp. Deb. ...	97—102
74,777	Oct. 2	2	2	Romford, 4 p.c. Debs. (Reg.) ...	97—102
21,000	Dec. 4	2½	2½	Slough, 5 p.c. Perp. Deb. ...	120—125
211,740	,, 11	2½	2½	Southampton, 5 p.c. Red. Deb.	105—110
363,575	Jan. 2	2½	2½	Tottenham, 5 p.c. Reg. Red. Mt.	97—102
202,019	Aug. 14	75/-	75/-	Tunbridge Wells, 4 p.c. Scale ...	125—130
135,257	Dec. 4	2½	2½	Uxbridge &c., 5 p.c. Perp. Deb.	120—125

PROVINCIAL EXCHANGES

					Quotations Jan. 26
804,948	July 31	2½	2½	Bath Cons.	113—115
122,577	Aug. 8	2½	3½	Blyth 5 p.c. Ord.	120—122
1,667,250	July 17	2½	2½	Bristol, 5 p.c. max.	119—121
120,420	Dec. 18	2	2	Do. 1st 4 p.c. Deb.	101—103
415,250	,,	2	2	Do. 2nd 4 p.c. Deb. ...	100½—102½
3,278,790	,,	2½	2½	Do. 5 p.c. Deb.	121—123
157,150	July 31	2½	3½	Chester 5 p.c. Ord.	105—109
52,500	Dec. 18	2	2	Do. 4 p.c. Cum. Pref. ...	90—93
40,000	,,	2	2	Do. 4 p.c. Non. Cum. Pref.	89—91
36,430	,,	1½	1½	Do. 3½ p.c. Deb.	88—92
41,890	,,	2	2	Do. 4 p.c. Red. Deb. ...	100—102
542,270	Aug. 8	3	4½	Derby Cons.	127—132
55,000	June 12	2	2	Do. 4 p.c. Deb.	97—102
40,000	Aug. 8	5½	5½	Exeter 10 p.c.	185—195
10,000	,,	5	5	Great Grimsby 'A' Ord. ...	160—170
6,500	,,	5	5	Do. 'B' Ord.	160—170
79,000	,,	5	5	Do. 'C' Ord.	150—160
732,000	Aug. 21	2	2	Hartlepool G. & W. Cn. & New	93—95
490,681	Dec. 18	1½	1½	Liverpool 3½ p.c. Red. Deb. Stk.	95—100
245,500	,,	2	2	Do. 4 p.c. Red. Deb. Stk.	101—102
306,083	June 26	2	2	Do. 4 p.c. Deb.	101—102
680,000	Dec. 18	2½	2½	Do. 5 p.c. Red. Stk. ...	104—109
20,000	June 19	2½	2½	Long Eaton 5 p.c. Pref.... ...	9—11
80,000	,,	2½	2½	Do. 5 p.c. Deb.... ...	117—122
2,430,267	July 31	2½	2½	Newcastle and Gateshead Con.	25/9—26/3a
682,856	,,	2	2	Do. 4 p.c. Pref.	104—106
776,706	Dec. 27	1½	1½	Do. 3½ p.c. Deb.	99—101
250,000	,,	1½	1½	Do. 3½ p.c. Red. Deb. ...	97½—99½
73,186	Oct. 30	2	2	Do. 4 p.c. Red. Deb. ...	102—104
106,280	Aug. 14	5	5	Preston 'A' 10 p.c.	170—175
188,219	,,	3½	3½	Do. 'B' 7 p.c.	132—135
1,806,339	Aug. 28	3½	3½	Sheffield Cons.	149—151
95,000	Jan. 2	2	2	Do. 4 p.c. Deb.	98—102
332,351	Aug. 28	3	3	Sunderland 6 p.c. max. ...	121—123
192,150	Aug. 14	2½	2½	Weston-super-Mare Cons. ...	112—114
64,338	Jan. 2	2	2	Do. 4 p.c. Deb.	99—101
33,340	,,	3½	3½	Do. 7½ p.c. Deb.	145—150

a—The quotation is per £1 of Stock. * Ex. div. † For year. ‡ Paid free of income-tax.

ERECTION WORK

GAS HOLDERS. OIL TANKS. STEEL BUILDINGS. CAST IRON TANKS. PURIFIERS. MAIN LAYING. PAINTING.
Sub-Contractors for any Erection Work,
REPAIRS, RE-SHEETING, DISMANTLING, & RE-ERECTION
INSPECTIONS.

S. CROOKSTON & CO.
Contractors
GREATWORTH, BANBURY, OXON.

CASES FOR BINDING

Half-Yearly Volumes of the "Gas Journal."

5/- each, post free.

Walter King, Ltd., 51, High Street, Esher, Surrey.

WESTWOOD & WRIGHTS, LTD.

GASHOLDERS · PURIFIERS · WASHERS · CONDENSERS · GAS VALVES · CASTINGS · WELDED PIPES · STEELWORK

BRIERLEY HILL, STAFFS

Still in print.

"DOMESTIC UTILIZATION OF GAS," (Part 2), Smith & Le Fevre. 5/6 post free.
"THEORY OF INDUSTRIAL GAS HEATING," Peter Lloyd. 7/6 post free.
"Notes on HIGH PRESSURE GAS MAIN CONSTRUCTION," R. J. Restall. 10/6 post free.

WALTER KING, LTD., "Gas Journal" Offices, 51, High Street, Esher, Surrey.

"KLEENOFF"

—THE COOKER CLEANER

Tins for Sale to Consumers. In Bulk for Works Use

OXIDE OF IRON.
SPENT OXIDE BOUGHT.

BALE & CHURCH, LTD.

33, ST. MARY AT HILL, LONDON, E.C.3.
Telephone: Mansion House 1156. Telegrams: "Balefire, London."

IRISH BOG ORE

Porous and Light
Easy to Work
A War Time Economy of Labour

HARRISONS (LONDON) LTD.

66, MARK LANE, LONDON, E.C. 3
Telegrams: "BIRCHROCK, LONDON." Telephone: ROYal 3120

PATENTS

MEWBURN, ELLIS & CO.,
CHARTERED PATENT AGENTS
AND TRADE MARK AGENTS
70 & 72, Chancery Lane, London, W.C.2.
Telegrams: "Patent, London." 'Phone: Holborn 0437
And 3, St. Nicholas Buildings, Newcastle-on-Tyne.

KINGS PATENT AGENCY, LTD.
(Director, B. T. King, A.I.M.E., Patent Agent)
Advice, Handbook, and Consultations free. 146a, Queen Victoria Street, London, E.C. 4. Phone: City 6161

EDUCATIONAL

A GOOD CAREER
WHY NOT BECOME AN INSPECTOR OF GAS METERS?

Write for particulars of specialized training for the qualifying examination of the Minister of Fuel and Power to the—
NALGO CORRESPONDENCE INSTITUTE,
24, Abingdon Street, Westminster, S.W. 1.

AUTHORITATIVE CORRESPONDENCE TRAINING

T.I.G.B. Students have gained 29 FIRST PLACES and Hundreds of Passes in the Examinations for A.M.Inst.C.E., A.M.I.Gas E., A.M.I.Chem.E., A.M.I.Mech.E., A.M.I.E.E., C. & G., etc.

Qualify Now by Home-Study with the T.I.G.B.

The Department of Fuel Technology covers **Gas Supply, Gas Engineering, Gas Power, Engineering,** and the **Certificates of The Institution of Gas Engineers.**

Write to-day for "Engineer's Guide to Success"—FREE—containing the world's widest choice of engineering courses—over 200—and which alone gives the Regulations as to admission to various examinations such as A.M.I.Gas E., A.M.Inst.C.E., A.M.I.Mech.E., A.M.I.Chem.E., C. & G., &c. The **T.I.G.B.** guarantees training until successful.

THE TECHNOLOGICAL INSTITUTE OF GREAT BRITAIN
148 TEMPLE BAR HOUSE, LONDON, E.C. 4

PLANT &c.

FIRTH BLAKELEY, SONS, & CO., LTD.
Vulcan Ironworks, Church Fenton, Yorks.

MANUFACTURERS of Gasholders, Tanks, Condensers, Purifiers, Scrubbers, Washers, and every description of Gas Plant.
Sole Makers of the "P.M" semi-water Gas Plant.
Telegrams: "Blakeleys, Church Fenton."
Telephone: Barkston Ash 234 and 235 (Private Branch Exchange). Code: "Bentleys."

ROBERT DEMPSTER & SONS, LTD., ELLAND, Builders of CARBONIZING PLANTS, both Horizontal and Vertical. Manufacturers of CONDENSERS, PURIFIERS, GASHOLDERS, &c., also every description of COAL and COKE HANDLING PLANT. *Telegrams:* "Dempster, Elland." *Telephone:* Elland 2241, 2242 and 2243.

BOOKS WANTED

WE are willing to purchase VOLUMES or COMPLETE UNBOUND SETS of the "JOURNAL" for the years 1940-1944 inclusive.
Walter King, Ltd., 51, High Street, Esher, Surrey.

TROTTER, HAINES & CORBETT LIMITED

FIRE-CLAY & BRICKWORKS
STOURBRIDGE

GAS RETORTS In BEST STOURBRIDGE QUALITY also SILICIOUS QUALITY 81% SILICA

HIGH GRADE INSULATING QUALITY FIREBRICKS

REGENERATIVE TUBES & TILES

APPOINTMENTS VACANT

THE WORCESTER NEW GAS LIGHT COMPANY

CHIEF TECHNICAL ASSISTANT

APPLICATIONS are invited for the above position. Candidates must have sound engineering training, also control of a modern gas-works, practical experience of continuous Vertical Retorts, Benzole Extraction, and C.W.G. Plant essential.

Brief application, stating details of Age, Education, Training, Qualifications and Experience to be addressed to:

The Worcester New Gas Light Company, Worcester. GEO. P. MITCHELL, M.Inst.C.E., Chief Engineer and Managing Director.

WOLVERHAMPTON GAS COMPANY

SHIFT ENGINEER

APPLICATIONS are invited for the position of SHIFT ENGINEER at the Works of the above Gas Company.

Applicants must have a sound knowledge and practical experience with Woodall-Duckham Continuous Vertical Retorts, Waste Heat Boilers, Automatic Water Gas Plant, and a general knowledge of all subsidiary plant on a gas-works.

Commencing salary £325 per annum, plus 20% war bonus.

Applications, stating Age, Training, previous Experience, present occupation, together with position regarding Military Service and Essential Works Order, and with not more than three *copies* of recent Testimonials, addressed to the undersigned, must be delivered not later than February 21, 1945.

Gas Offices, Darlington Street, Wolverhampton. A. H. CRANMER, M.Inst.Gas E., Chief Engineer.

BOROUGH OF ILKESTON

APPOINTMENT OF GAS ENGINEER AND MANAGER

APPLICATIONS are invited from qualified Engineers for the appointment of GAS ENGINEER AND MANAGER of the Gas Undertaking, at a commencing Salary at the rate of £700 per annum (plus cost of living bonus), rising by annual increments of £50 to £850 per annum.

The appointment will be subject to the provisions of the Local Government Superannuation Act, 1937.

Applications, stating Age, Training, Qualifications and Experience and endorsed "Gas Engineer and Manager" should be delivered to the undersigned, accompanied by *copies* of three recent Testimonials, not later than Thursday, February 8, 1945.

Canvassing, either directly or indirectly, will disqualify.

Town Hall, Ilkeston, Derbyshire. E. I. E. WILLIAMS, Town Clerk.

January 23, 1945.

COUNTY BOROUGH OF ROCHDALE

(GAS DEPARTMENT)

APPLICATIONS are invited for the position of ASSISTANT CHEMIST. The position will be temporary for the duration of the war.

Favourable consideration will be given to applicants with Gas-Works' laboratory experience.

Salary paid will be in accordance with Grade A of the Professional, Technical, and Administrative Division of the Corporation's grading scheme (£230, rising by annual increments of £15 to £275 per annum) plus war bonus, which is at present approximately £49 per annum.

Applications, stating Age of applicant, accompanied by *copies* of two recent Testimonials and endorsed "Assistant Chemist," should be addressed to the Engineer and Manager, Gas-Works, Dane Street, Rochdale, and must be received not later than February 26, 1945.

Town Hall, Rochdale. HARRY BANN, Town Clerk.

February 3, 1945.

WANTED.—WORKING MANAGER for small Gas Undertaking; must be capable and experienced in carrying out all operations of manufacture at the Works and possess the necessary initiative and responsibility for maintaining supply to District and executing routine duties. Residence, gas and coal provided free.

Apply, stating Age, full Qualifications and Experience, present position and weekly wage, to No. 9402, "GAS JOURNAL," 51, High Street, Esher, Surrey.

Revised.

COUNTY COUNCIL OF THE COUNTY OF LANARK

(GAS UNDERTAKING)

DISTRIBUTION ENGINEER

APPLICATIONS are invited for the position of DISTRIBUTION ENGINEER in the Gas Undertaking.

Candidates must be duly qualified in all branches of Gas Supply and must possess recognized technical qualifications. Candidates must also have thorough technical knowledge and sound practical experience of high and low pressure distribution, and of the general application of gas for domestic, industrial and commercial purposes. The person appointed must be able to organize and supervise Distribution Work, Workshop Practice, and prepare plans and estimates.

The appointment will be subject to the provisions of the Local Government Superannuation (Scotland) Act, 1937, and the successful candidate will be required to pass a medical examination.

Applications, stating Age, Qualifications, Experience, Salary required, and present position under the E.W.O. and National Service, and accompanied by *copies* of three recent Testimonials with envelope endorsed "Distribution Engineer," should be addressed to the undersigned at Lanarkshire House, 191, Ingram Street, Glasgow, C. 1, and delivered not later than Friday, February 23, 1945.

WM. C. BROWNLIE, County Clerk.

BOROUGH OF CHESTERFIELD

(GAS DEPARTMENT)

APPLICATIONS are invited for the position of MAINS SUPERINTENDENT at the above Works. Applicants must have had practical experience in the laying of High and Low Pressure Mains in Cast Iron and Steel and also in the installation and maintenance of District Governors.

The position is subject to the provisions of the Local Government Superannuation Act, 1937, and the successful applicant must pass a Medical Examination.

Wages £5 5s. per week, plus cost of living bonus. Good prospects of obtaining a house at reasonable rent. Applications, stating Age, Experience and position regarding the Essential Works Order, together with *copies* of not more than two Testimonials, to be forwarded to the undersigned not later than February 17, 1945.

RICHARD CLEGG, Town Clerk.

PLANT &c. FOR SALE & WANTED

'PHONE 98 STAINES.

FOR SALE.—10 h.p. Steam Turbine, 100 lb., 2,400 revs. (Redn. Gear); 7 h.p. Crossley Gas Engine; 3 Throw Tangye Pump, 5 in. by 8 in.; 25 h.p. Belliss Steam Engine; Storage Tank, 17 ft. by 6 ft. diam.

HARRY H. GARDAM & CO., LTD., STAINES.

FOR SALE.—A Number of Wrights' "St Andrew" Gas-Water RADIATORS. Also 2.6 Col. Wrights' "St. Vincent" non-water type RADIATORS. Cheap. Address No. 9399, "GAS JOURNAL," 51, High Street, Esher, Surrey.

MISCELLANEOUS

LARGE quantities of good rough Breeze required by factors paying own Railway Tolls. Price and particulars to No. 9378, "GAS JOURNAL," 51, High Street, Esher, Surrey.

COMPANY NOTICES

THE GAS LIGHT AND COKE COMPANY

NOTICE IS HEREBY GIVEN that an ORDINARY GENERAL MEETING of the Proprietors of The Gas Light and Coke Company will be held at Gas Industry House, 1, Grosvenor Place, S.W. 1, on Thursday, the 15th day of March, 1945, at 12 o'clock (noon) precisely, to transact the usual business, including the declaration of Dividends for the Half-year ending on the 31st day of December, 1944, and to elect Directors and Auditors in the place of those who will at such Meeting go out of office in compliance with the Company's Acts or Schemes of Amalgamation.

The TRANSFER BOOKS so far as they relate to the Ordinary, 4% Consolidated Preference and 3½% Maximum Stocks WILL BE CLOSED at 4 p.m. on the 15th February, 1945, and will be reopened immediately after the Ordinary General Meeting.

Chief Office: 30, Kensington Church Street, London, W. 8. By Order, BRIAN WOOD, Secretary.

January 25, 1945.

SOUTH METROPOLITAN GAS COMPANY

NOTICE IS HEREBY GIVEN that the ORDINARY GENERAL MEETING of the PROPRIETORS, of this COMPANY will be held in the Livesey Institute 589, Old Kent Road, S.E. 15, in the County of London, on WEDNESDAY, the 28th day of FEBRUARY next, at 11.30 a.m. to receive the Directors' Report and the Accounts of the Company for the year ended the 31st December last, to declare Dividends for the same period, and to elect two Directors and one Auditor in place of those retiring by rotation.

The TRANSFER BOOKS WILL BE CLOSED for both PREFERENCE and ORDINARY STOCKS from the 14th day of February until after the Meeting.

Offices: 709, Old Kent Road, S.E. 15. By Order of the Board, F. G. BREWER, Secretary.

February 3, 1945.

THE BARNET DISTRICT GAS AND WATER COMPANY

NOTICE IS HEREBY GIVEN that the Ordinary Yearly General Meeting of the Proprietors of the above Company will be held at the Great Eastern Hotel, Liverpool Street, London, E.C. 2, on Tuesday, the 27th February, 1945, at 12 noon precisely, to receive the report of the Directors for the year ended 31st December last, to declare dividends, to elect Directors and Auditors in place of those retiring by rotation, and to transact the general business of the Company.

The TRANSFER BOOKS WILL BE CLOSED from the 15th February to the 1st March, 1945, both inclusive.

Office: Station Road, New Barnet. By Order of the Board, E. D. DAVEY, Secretary.

February 5, 1945.

60% Sulphur absorbed by our

OXIDE

which has stood the test of 60 years.

Minimum Costs, Highest Efficiency

ESTABLISHED 1873

GAS PURIFICATION & CHEMICAL COMPANY LIMITED

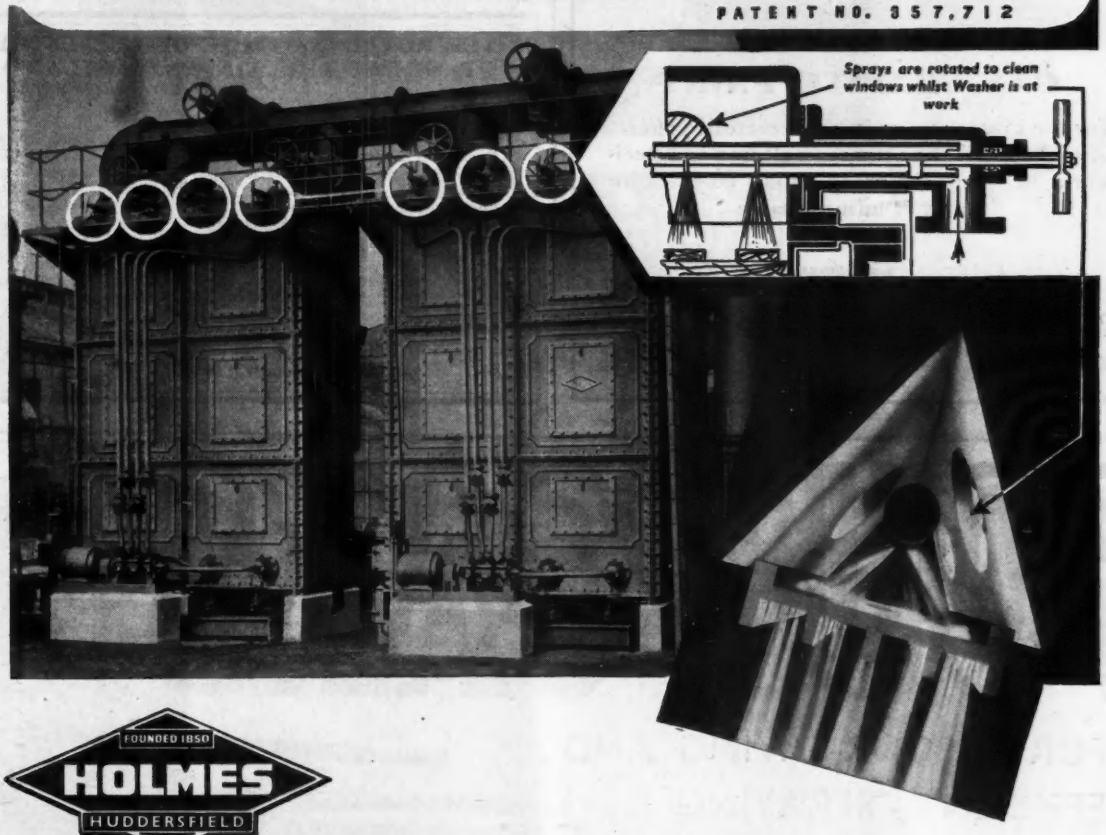
PALMERSTON HOUSE, 34, OLD BROAD STREET LONDON, E.C.2.

Telegrams: "Purification, Stock, London." Telephone: London Wall 2377

HOLMES-
MULTIFILM WASHERS

SPECIAL FEATURES Nº 2
'EASY CLEAN' SPRAYS

PATENT NO. 357,712



FOUNDED 1850
HOLMES
HUDDERSFIELD

THE circulation system embodied in Holmes' "Multifilm" Washers includes an ingenious and effective type of "Easy Clean" Spray.

These sprays consist of slits transverse to the distributor pipes and through each slit there passes a tooth attached to a central rod, which can be easily moved by an external handle.

The sprays can, therefore, be kept perfectly clean without interrupting the working of the Washer, are open to inspection during operation and can be directed by a single movement of the handle on to the inside surface of the inspection windows to wash away deposits.

HEAD OFFICE • TURNBRIDGE • HUDDERSFIELD
LONDON OFFICE - 119 VICTORIA ST. S.W.1 - MIDLANDS OFFICE - 21, BENNETT'S HILL, BIRMINGHAM 2
Telephones: Huddersfield, 5280 : LONDON, Victoria, 9971 : BIRMINGHAM, Midland, 6830

C221

HUMIDINE

NON-SETTING PAINT

Used by the leading Gas Companies for the protection of the lower plates and cuppings of gasholders. The most efficient anti-corrosion paint in existence

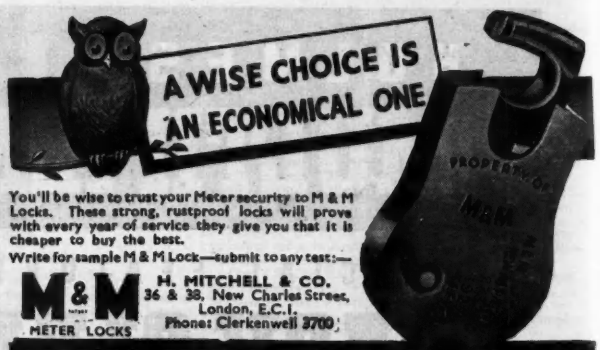
HUMIDINE NEVER DRIES, NEVER CRACKS AND IS ABSOLUTELY IMPERVIOUS TO WATER

OXY-GRAFITE PAINT

For the Protection against the corrosive effects of acid and alkaline fumes on all iron and steelwork of gasworks, Aspinalls Oxy-Grafite Paint is unsurpassable

Full particulars and prices on request from the sole proprietors

ASPINALLS (PAINTS) LIMITED
CARLETON — SKIPTON — YORKS



You'll be wise to trust your Meter security to M & M Locks. These strong, rustproof locks will prove with every year of service they give you that it is cheaper to buy the best.
Write for sample M & M Lock—submit to any test:—

M&M METER LOCKS
H. MITCHELL & CO.
36 & 38, New Charles Street, London, E.C.1.
Phone: Clerkenwell 3700

LASTING SECURITY IS TRUE ECONOMY

THE ROYAL INSTITUTE OF CHEMISTRY OF GREAT BRITAIN AND IRELAND.
(Founded 1877) *(Incorporated by Royal Charter 1885)*

APPOINTMENTS REGISTER.

A REGISTER OF CHEMISTS (Fellows, Associates and Senior Registered Students) WHO ARE AVAILABLE FOR APPOINTMENTS, or who are seeking to improve their positions, is kept at the office of the Institute. The facilities afforded by this Register are available (free), to Companies and Organisations requiring the services of chemists, and to Universities, Colleges and Technical Schools requiring Teachers of Chemistry and Technology. A List of Laboratory Assistants is also available.

Particulars of the Regulations and Examinations of the Institute can be obtained (free), on application to the Registrar.

All communications to be addressed to:—

The Registrar, The Royal Institute of Chemistry,
30, Russell Square, London, W.C.1.

FOUR OAKS

FOR LABOUR-SAVING AND EFFICIENT SPRAYING

These sprayers are both labour-saving and effective in performance. They have proved themselves in many gas undertakings, and gas engineers using them consider they are all that we claim for them. Specialising in spraying apparatus, our wide range of productions includes machines for white-washing, disinfecting, creosoting and paint spraying. Tell us your spraying problem—our long experience can help you.

The
"FOUR OAKS" Gold Medal "Bridgwater" Pattern

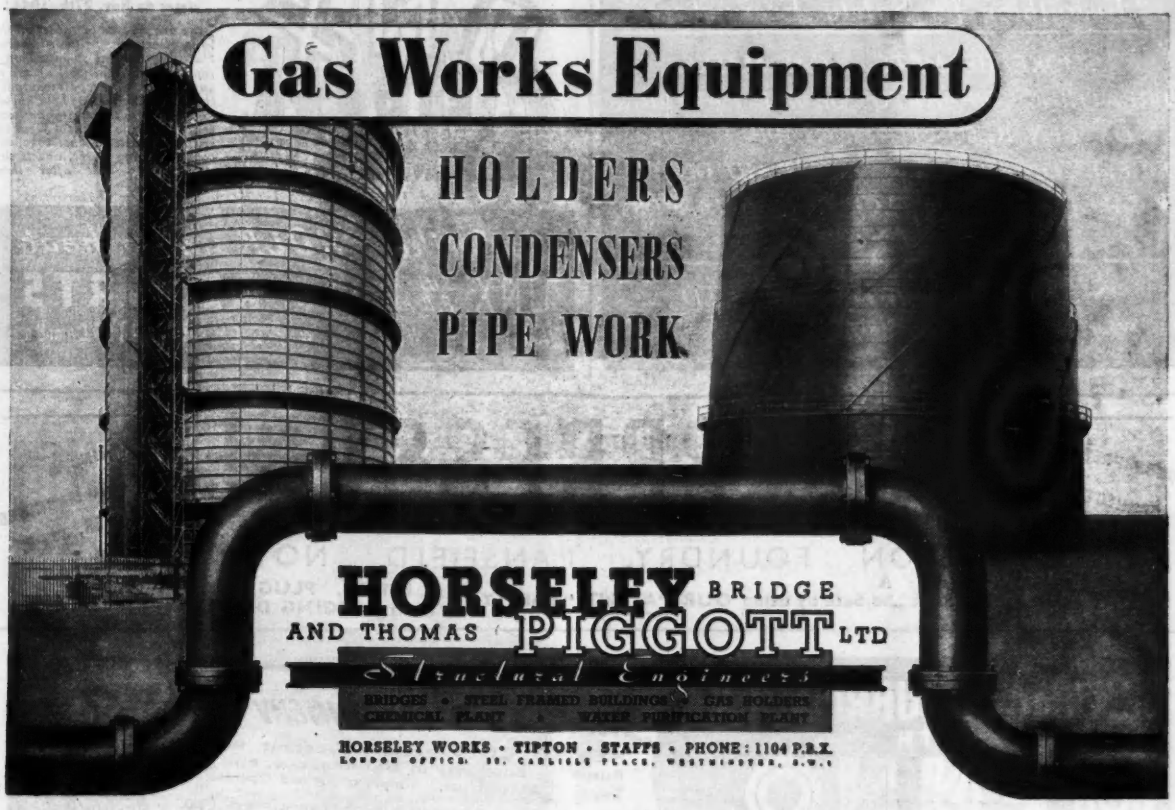
The special feature of this pump is that the pump bucket works entirely outside the liquid.

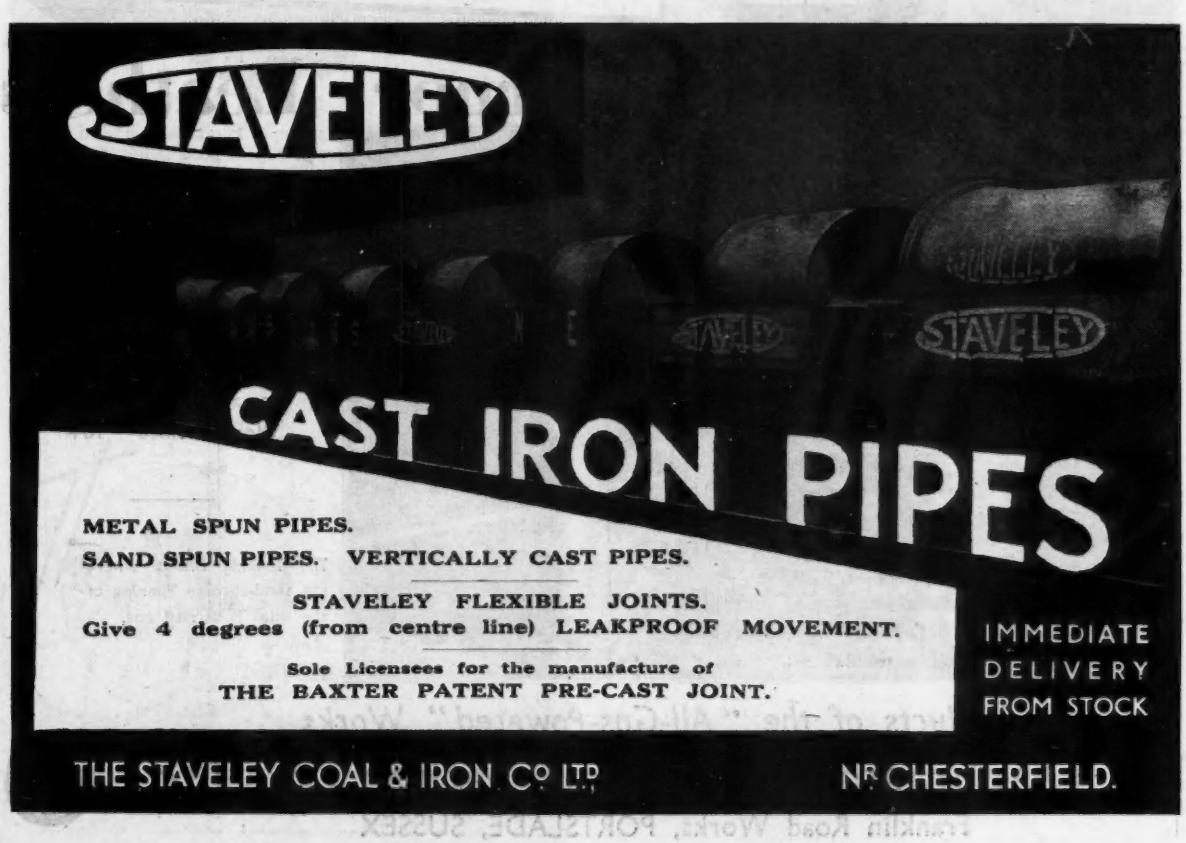
18 Gallons, £20 2 6

Other patterns of smaller capacity and lower prices.

Above price plus 10% advance. Owing to the National Emergency all prices are subject to conditions prevailing at the time orders are received.

THE FOUR OAKS SPRAYING MACHINE CO.,
FOUR OAKS WORKS · FOUR OAKS · BIRMINGHAM.
Telegrams: "SPRAYER, FOUR OAKS." *Telephone: FOUR OAKS 305.*


Gas Works Equipment
HOLDERS
CONDENSERS
PIPE WORK
HORSELEY BRIDGE
AND THOMAS PIGGOTT LTD
Structural Engineers
BRIDGES • STEEL FRAMED BUILDINGS • GAS HOLDERS
CHEMICAL PLANT • WATER PURIFICATION PLANT
HORSELEY WORKS • TIPTON • STAFFS • PHONE: 1104 P.B.X.
LONDON OFFICE: 32, CARLISLE PLACE, WESTMINSTER, S.W.1


STAVELEY
STAVELEY
CAST IRON PIPES
METAL SPUN PIPES.
SAND SPUN PIPES. VERTICALLY CAST PIPES.
STAVELEY FLEXIBLE JOINTS.
Give 4 degrees (from centre line) LEAKPROOF MOVEMENT.
Sole Licensees for the manufacture of
THE BAXTER PATENT PRE-CAST JOINT.
IMMEDIATE DELIVERY FROM STOCK
THE STAVELEY COAL & IRON Co LTD
NR CHESTERFIELD.

"Everything for Safety Everywhere."

SMOKE HELMETS. GAS MASKS
BREATHING APPARATUS OF ALL PATTERNS
OXYGEN RESUSCITATING APPARATUS.
FIRE EXTINGUISHERS. FIRST-AID OUTFITS
SAFETY AND PROTECTIVE APPLIANCES
OF ALL DESCRIPTIONS.

SIEBE, GORMAN & CO. LTD.,
WESTMINSTER BRIDGE ROAD, LONDON, S.E.1.
Telegrams "Siebe, Lamb, London" Telephone No.: Waterloo 6071

ONX FIRE CEMENT

ANOTHER GAS COMPANY states on Nov. 27th, 1944:

"We are pleased to report on the satisfactory way your special Patching Cement stood up on a repair to the front wall of one of our settings. The repair was round the producer charging hole, having to stand up to the worst conditions, being subject to the heat from the setting, abrasion of hot coke, and cold quenching water, and is still standing up well after three months."

Sets like a ROCK under heat
ONX 'SUPER 83' BRAND for RETORTS
A.L.CURTIS Westmoor Works CHATTERIS Cambs.

UNDERPRESSURE CONNECTIONS, SPLIT COLLARS, SOCKET CLIPS

UNDERPRESSURE
ENGINEERING CO. LTD.
UNION FOUNDRY, MANSFIELD, NOTTS.
Be Sure and Safe by using OUR PATENT "SAFETY" { C.I. TEES, PLUG CAPS Main BAGGING DEVICE

DRILLING & TAPPING MACHINES DRILLS, TAPS, REAMERS, etc., etc.

AUTOMATIC LUBRICATION WITH MENNO CUPS

SAFEGUARD MACHINERY BEARINGS
MENNO CUPS ensure Constant Reliable Running, Economy in Maintenance, and Save Time in Attention. Simple to Fit and Operate.
The MENNO COMPRESSED AIR GREASECUP CO. LTD.
Leeds Place, Tollington Park, London, N.4.
Telephone: Archway 1786. Telegrams: "Agreascup, London."
SPECIFY MENNO CUPS FOR LUBRICATION

Meter and Governor Leathers

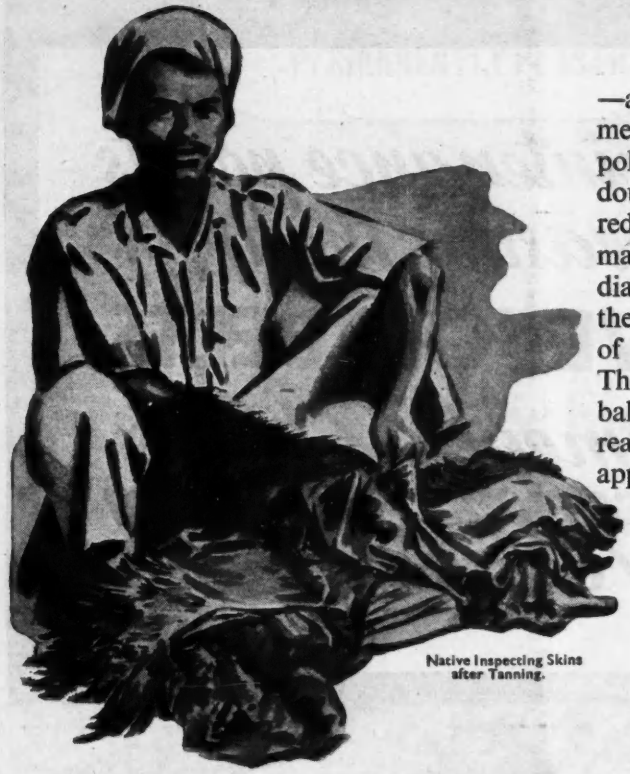
DIAPHRAGM'S DEPENDABLE DIAPHRAGMS

have been supplied to all parts of the World since 1847

The Tanning Drums where the semi-chrome Tanning of the skins is carried out.

Products of the "All-Gas-Powered" Works
The Diaphragm & General Leather Co., Ltd.
Franklin Road Works, PORTSLADE, SUSSEX

TAKING IT SERIOUSLY—



Native Inspecting Skins after Tanning.

—and it is a very serious matter where gas-meter diaphragms are concerned—The Metropolitan Leather Co. Ltd. have proved beyond doubt that the skins of Indian (Madras district) red-haired sheep are the most suitable for the manufacture of their long-life "Multitest" diaphragms, especially when designed to meet the particular requirements of your type of meter.

The natives who sort, unhair, tan, dry and bale these unusual skins, probably do not realise how little their work is known and appreciated over here.

Unhairing the Skins.

Indian tanners consign various qualities together and one finds, mixed with even the best quality tannages, poorer quality skins from wool sheep—and it is the expert sorter's job to ensure that only the very finest quality skins of red-haired sheep are permitted to go forward for manufacture. The Metropolitan Leather Co., who specialises in selecting, preparing, re-tanning, cutting and oil-dressing these skins, know that no other leather will produce such a wide range of reliable diaphragms. When you place your next order, specify "Multitest" diaphragms and you will be using the most reliable make that specialised experience can produce.

Look out for our next advertisement which will carry the interesting story of diaphragms a step further.

The METROPOLITAN LEATHER COMPANY LIMITED

WELLINGTON WORKS, QUEEN STREET
GREAT HARWOOD, LANCS.

CMM9

5

key maintenance points for increasing the life of

CONVEYOR BELTS

✓ *Alignment* ✓ *Idlers*
✓ *Lubrication* ✓ *Tension*
✓ *Cleaning*

SAVE RUBBER
EVERY DAY
EVERY WAY

NORTH BRITISH

THE NORTH BRITISH RUBBER COMPANY LTD.

EDINBURGH & LONDON

RW/C2

Denso

PERMANENTLY PLASTIC PROTECTION

is proof against the combined attacks of Chemical & Electrolytical corrosion

Write for Specification and Price List

WINN & COALES LTD.

Terminal House, Grosvenor Gardens, London, S.W.1

Telephone and Telegrams: Sloane 6264

There are "Keith Blackman" Gas Injectors, Burners and Nozzles for almost every industrial heating requirement

Here is a multi-ring burner with injectors and special non-blow-off burner nozzles controlled in sections, as mainly used for heating pots, coppers, boilers, etc.

KEITH BLACKMAN INDUSTRIAL GAS HEATING EQUIPMENT

Injectors, Burners and Nozzles for heating crucible furnaces and high-temperature gas furnaces; drying foundry moulds and burning off paint; heating lengths of angle bar and tee iron; heating the interior of cylinders, such as the rollers of laundry ironing machines; heating type metal pots, coppers, boilers, sugar pans, etc.

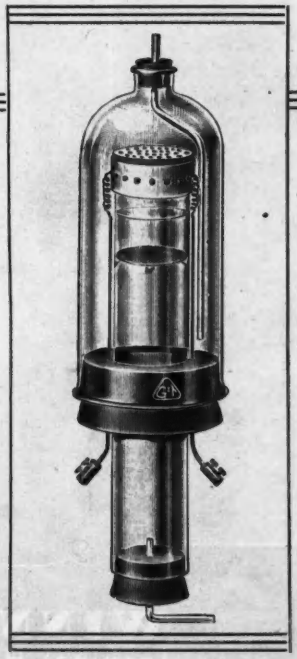
KEITH BLACKMAN LTD.
MILL MEAD ROAD, LONDON, N.17.
'PHONE: TOTTENHAM 4522.
'GRAMS: KEITHBLAC, PHONE, LONDON'

THE CRITICAL AIR BLAST TEST

This test is of growing importance. Its object is to find the minimum air supply in cu. ft./min. which will maintain combustion for 20 minutes in a bed of coke which has been ignited under standard conditions.

Two types of the apparatus have been in common use: those respectively due to Brewin and Thompson, and to Bladen and Riley.

A new British Standard Specification is shortly to be issued. Price of apparatus on application.



GRIFFIN and TATLOCK Ltd

LONDON • Kemble Street, W.C.2
MANCHESTER • 19, Cheetham Hill Rd., 4
GLASGOW • 45, Renfrew Street, C.2
EDINBURGH • 7, Teviot Place, 1

Established as Scientific Instrument Makers in 1826

BIRMINGHAM: STANDLEY BELCHER & MASON LTD., CHURCH STREET, 3

Printed by Straker Brothers, Ltd., London, E.C.2, for Walter King, Limited, 11, Bolt Court, Fleet Street, London, E.C.4.—Wednesday, February 7, 1945.

W.&B.COWAN

INCORPORATED IN PARKINSON & COWAN (GAS METERS) LTD.

FITZALAN STREET WORKS, KENNINGTON RD., LONDON, S.E. 11; also at GLASGOW, NEWCASTLE-ON-TYNE AND MANCHESTER

MAINLAYING AND GASWORKS CONSTRUCTION OF ALL TYPES

EMERGENCY WORK
We have a Large Staff of skilled men on call at any hour of the day or night.

DEPOT PHONES
(DAY & NIGHT)
TOTtenham 2665/6
ADVance 3771
LIBerty 3229

Civil Engineering Contractors

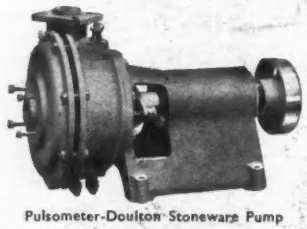
'Phone: WHITEHALL 1752, 2961
'Grams: "UNWATER PARL"

WILLIAM PRESS & SON, 38, Old Queen St., London, S.W.1

Pulsometer

PUMPS FOR GAS WORKS

The Pulsometer Engineering Co. have for many years supplied pumps of many types to meet the varied duties required in modern Gas Works. These include a wide range of standard centrifugal designs for general water supply and cooling water services for clean water, and specialized pumps constructed in the metal most suitable for pumping the various special liquors met with in the recovery of by-products.

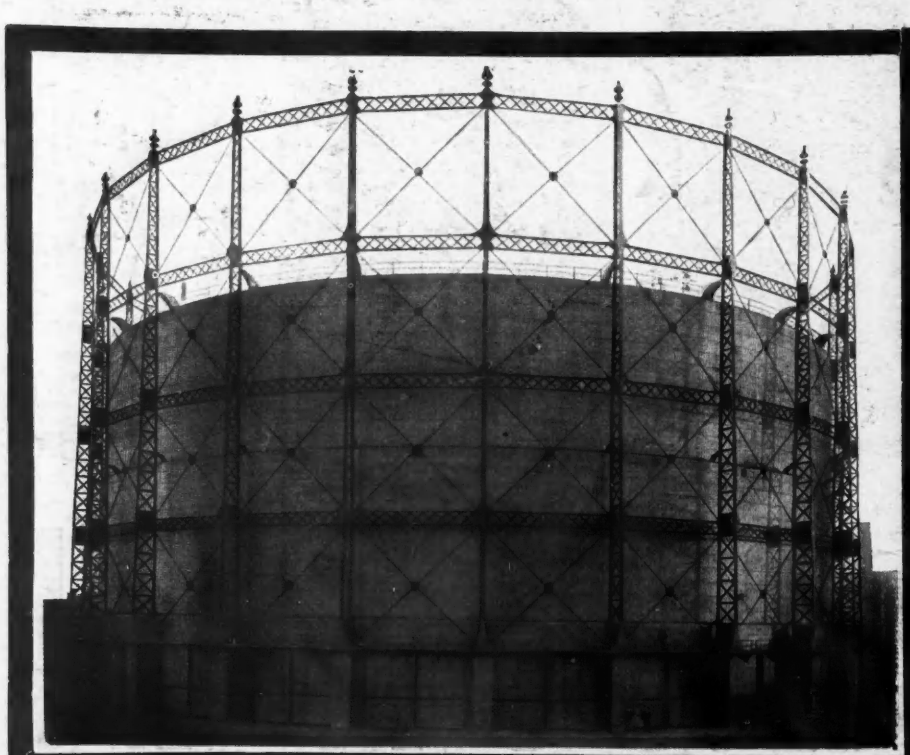


Pulsometer-Doulton Stoneware Pump

For Mother Liquors containing acids, the Pulsometer-Doulton Stoneware Pump can resist all but hydrofluoric acid and is suitable for temperatures up to 100° C.

List No. 2956

Pulsometer Engineering Co. Ltd.
Nine Elms Ironworks, Reading.



GASHOLDERS AND TANKS OF ANY SIZE AND DESIGN

FRAME GUIDED SPIRAL WATERLESS
(MAN PATENTS)

LONDON OFFICE:
·ABBEY HOUSE·
2.VICTORIA ST.S.W.I.

PURIFIERS, STRUCTURAL STEELWORK, WELDED AND RIVETTED.
STEEL PIPES, TAR DEHYDRATION, AND DISTILLATION PLANTS, BOILERS.

CLAYTON SON & CO., LTD., Moor End, Hunslet, LEEDS

Printed by Straker Brothers, Ltd., London, E.C.2, for Walter King, Limited, 11, Bolt Court, Fleet Street, London, E.C.4.—Wednesday, February 7, 1945.